Section 2 –
Community Risk Assessments



Unified Fire Authority

Section 2 – Unified Fire Authority

Part 1 – UFA Information and Coverage Areas

Legal Existence

On November 21, 1921, the Salt Lake County Fire Department was formed pursuant to Utah Code 11-7-1 (amended 2016), outlining that all municipalities shall provide fire protection within their jurisdiction and/or contract for said services. In 2004, Salt Lake County Fire Department split from Salt Lake County becoming a Special Service District (SSD) and taxing entity and rebranding itself as Unified Fire Authority of Greater Salt Lake. This creation of an SSD falls under Utah Code 17B Part 2 and Utah Code 11-13-4. Additionally, Salt Lake County Ordinance 17-34-1 (effective 5/2019) outlines the services that a First-Class County will provide, including fire protection services, advanced life support and paramedic services — including in recreational areas.

In 2004, when UFA separated from Salt Lake County Government, it did so with the establishment of an interlocal agreement (ILA). In 2019, through many discussions and meetings, UFA and its Board of Directors revisited the ILA and adjusted many portions of the ILA, keeping the legal authorities in place whereby UFA was providing the necessary fire suppression response and rescue services in place and redefining the various parameters whereby the municipalities fell into either a service area member or contracting entity. The revised ILA was signed by all parties at the end of 2019 or beginning of 2020.

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Unified Fire Authority's Vision, Mission, and Values

Vision

To enhance and protect the safety and well-being of our community.

Mission

To save lives, protect property, and strengthen community relationships with professionalism, courage, and dedication.

Values

- Integrity
- Professionalism
- Respect
- Accountability
- Teamwork
- Dedication
- Courage

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Unified Fire Authority Board of Directors

Town of Alta – Mayor Roger Bourke

Town of Brighton – Mayor Dan Knopp

Copperton Township – Councilmember Kathleen Bailey

City of Cottonwood Heights – Mayor Mike Weichers

Eagle Mountain City – Mayor Tom Westmoreland

Emigration Township – Councilmember Catherine Harris

Herriman City – Councilmember Jared Henderson

Holladay City – Mayor Rob Dahle

Kearns Township – Councilmember Chrystal Butterfield

Magna Township – Councilmember Trish Hull

Midvale City – Mayor Marcus Stevenson

Millcreek City – Mayor Jeff Silvestrini

Riverton City – Councilmember Tish Buroker

City of Taylorsville – Mayor Kristie Overson

Salt Lake County – Deputy Mayor Catherine Kanter

Salt Lake County – Councilmember Sheldon Stewart

White City Township – Councilmember Allen Perry

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Unified Fire Authority Leadership

Fire Chief – Dominic Burchett

Assistant Chief, Administration & Planning – Riley Pilgrim

Assistant Chief, Emergency Services – Dusty Dern

Assistant Chief, Support Services – Zachary Robinson

Chief Financial Officer – Tony Hill

Chief Legal Officer – Brian Roberts

Information Outreach, Director of Communications – Nile Easton

Standards of Cover Work Group

Assistant Chief Stephen Higgs

Assistant Chief Dusty Dern

Battalion Chief Embret Fossum

Battalion Chief Wade Russell

Captain Rob Ayres

Captain Matthew Call

Communications Supervisor Justin Watters

Emergency Management Division Chief Clint Mecham

Local1696 Representative Captain Michael Conn

Medical Division Chief Jay Torgersen

Operations Chief Dusty Dern

Special Operations Division Chief Bryan Case

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UFA Organizational Chart

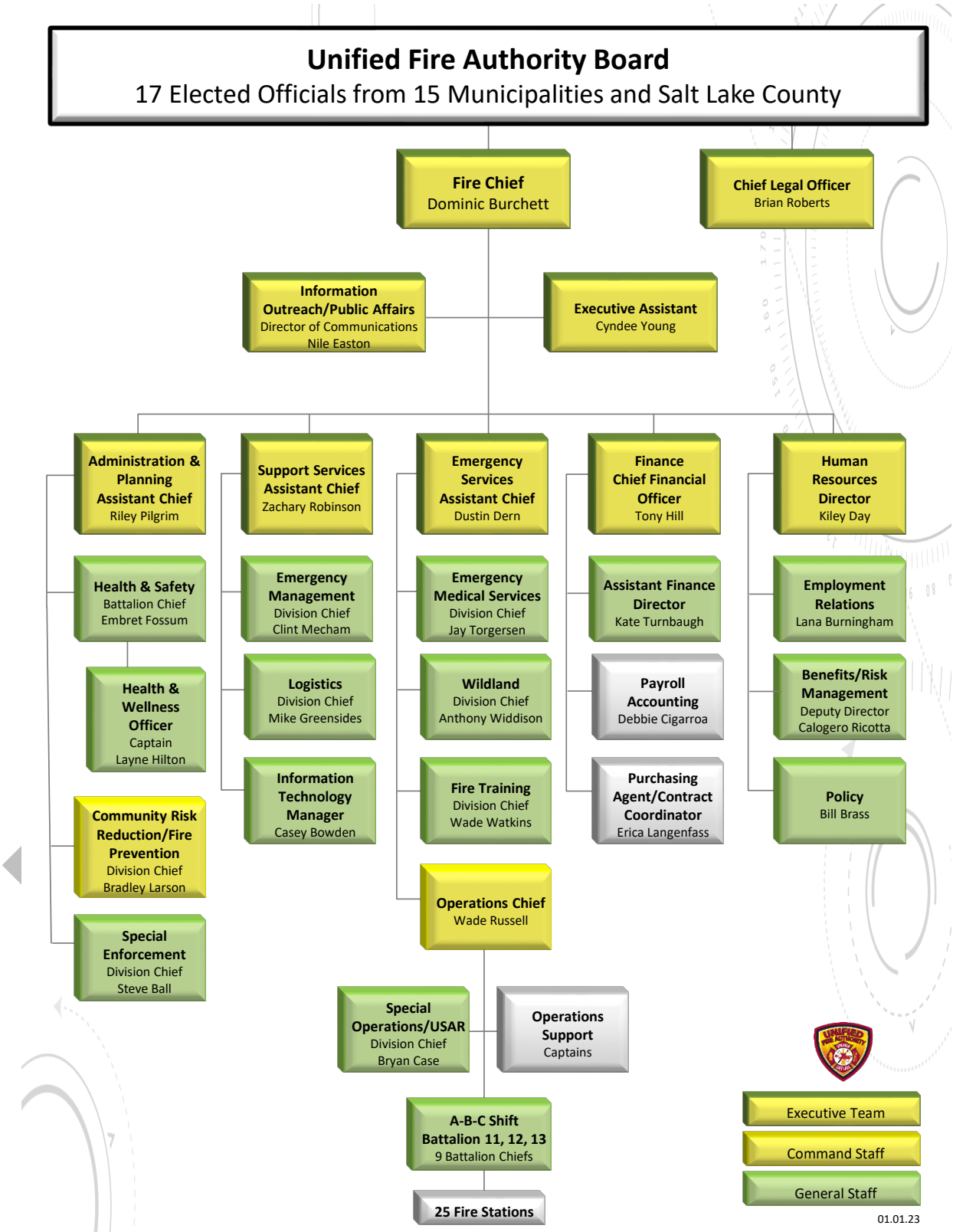


Image 2 - UFA Organizational Chart, 2023

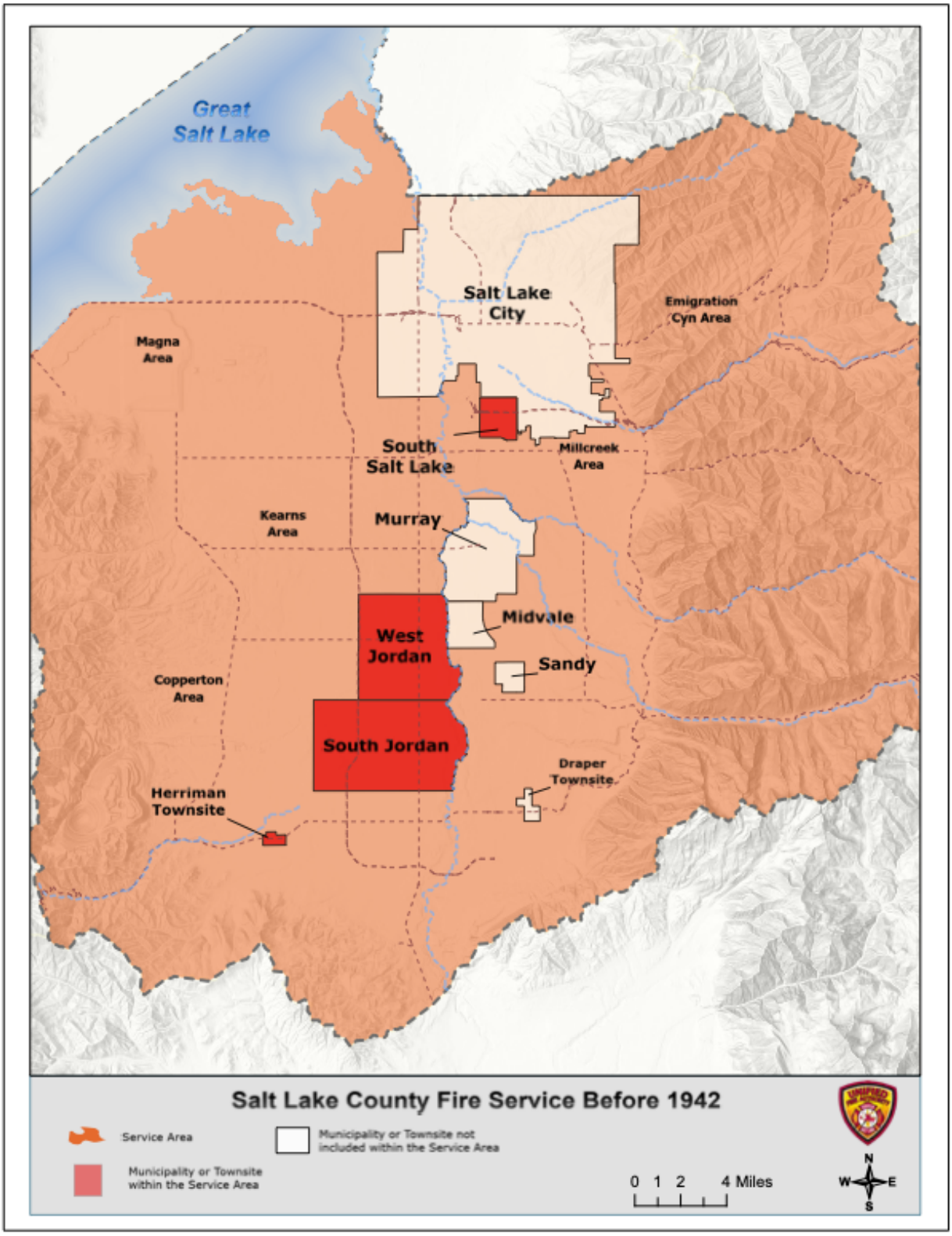
Organizational History

UFA is Utah's largest fire agency with nearly 700 employees serving an estimated 451,035 residents in 15 municipalities and Salt Lake County.

Unified Fire Authority (UFA), Utah's largest fire agency, provides fire protection, emergency medical services and other emergency responses for Alta, Brighton, Copperton Township, Cottonwood Heights, Eagle Mountain, Emigration Canyon Township, Herriman, Holladay, Kearns Township, Magna Township, Midvale, Riverton, Taylorsville, White City Township and the Unincorporated Areas of Salt Lake County. Unified Fire Authority was formally Salt Lake County Fire Department until forming the UFA in 2004. UFA, whose headquarters are located at 3380 South 900 West, in Salt Lake County, has a 2020 operating budget of approximately $72 million.

On November 21, 1921 Salt Lake County Fire Department was formed under the direction of Chief Albert Marriott. Throughout the department's history, members have worked to enhance fire service and improve service delivery to the residents of the Salt Lake Valley. The department was instrumental in helping with the development and design of the first water carrying engines to be used in the Midwest while also addressing the need for rapid transport to the hospital and starting an ambulance service. Salt Lake County Fire continued to grow, morph, and solidify through the decades. During the 1970's, the department certified all employees as EMT's. A few years later, the department participated in some of the first Paramedic training offered to Utah Firefighters by sending nine Firefighters to Los Angeles, helping pioneer the Paramedic program for the State of Utah. Over the next several years, the department started to create specialized response teams such as HazMat, Heavy Rescue and Wildland Teams.

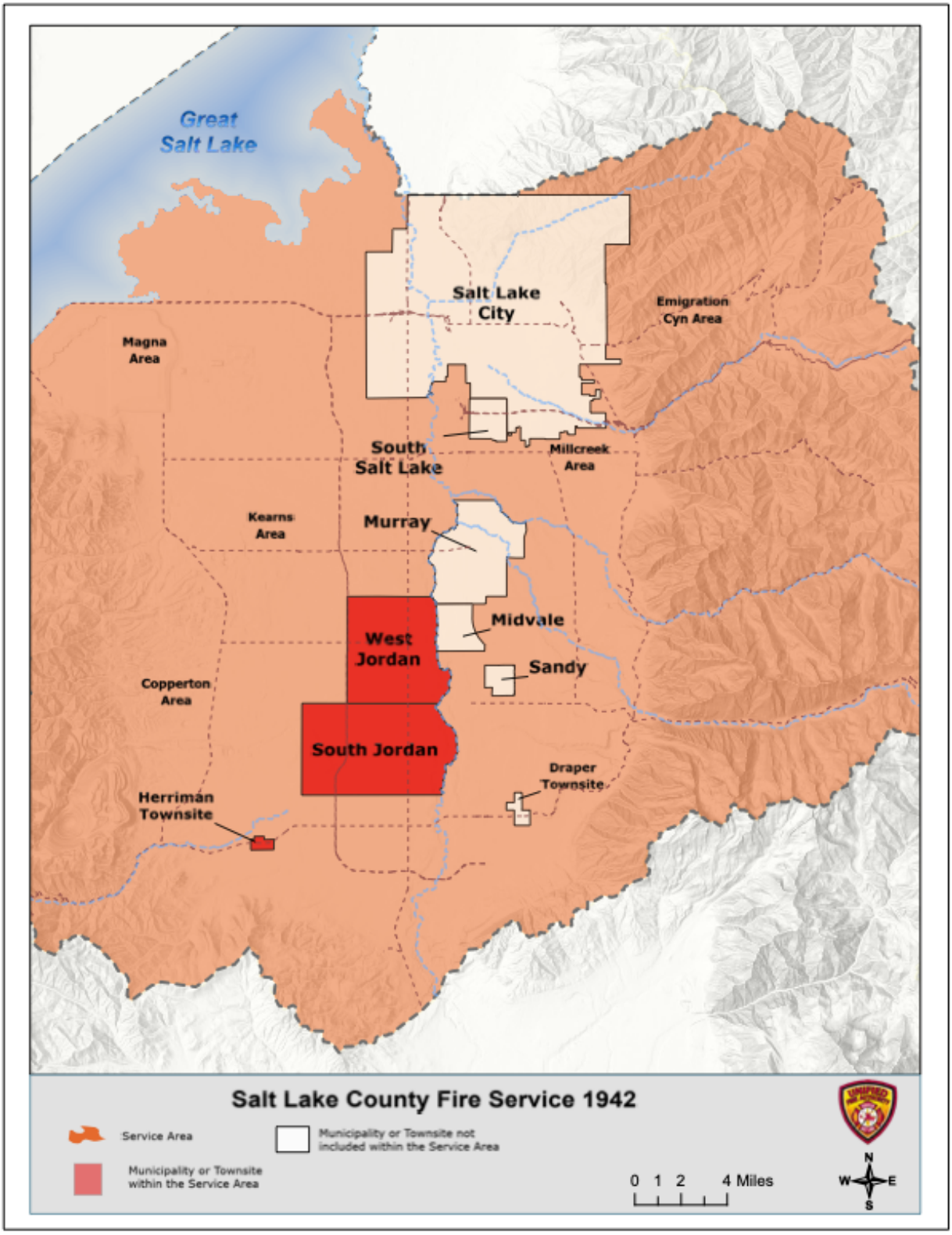
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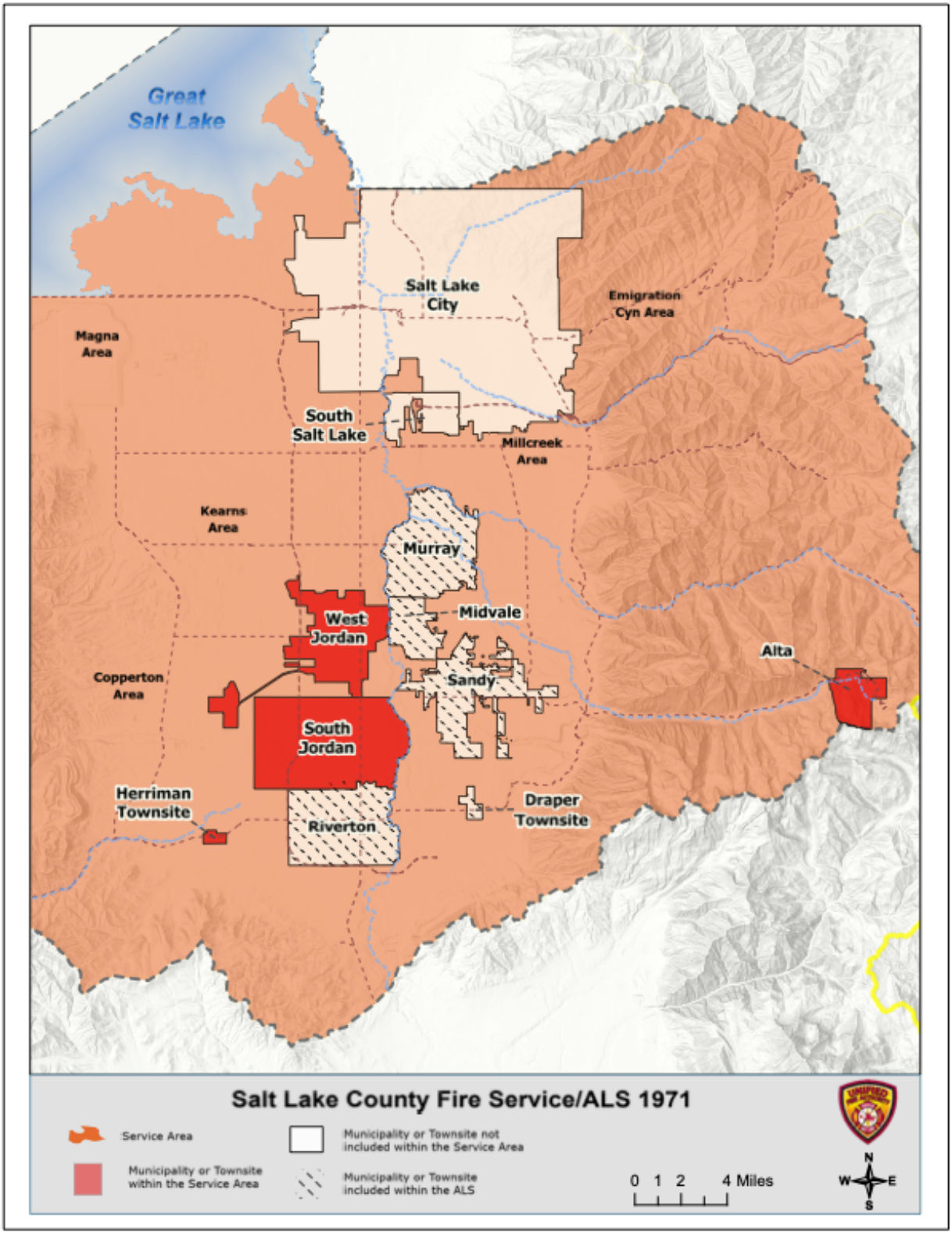
Map 21 - SLCo Fire 1921-1942

From this point on, Salt Lake County Fire was responsible for maintaining Advanced Life Support (ALS) services to all municipalities within the Salt Lake Valley. In 1977, both South Jordan and West Jordan Cities formulated their own fire response services at a municipal level and removed itself from Salt Lake County Fire services. In 1978, the City of Bluffdale formulated its own fire response, and in 1985 the West Valley City created its own fire service. In 1995, Draper City moved its fire services to Salt Lake County Fire, and in 1998 Riverton City followed suit.

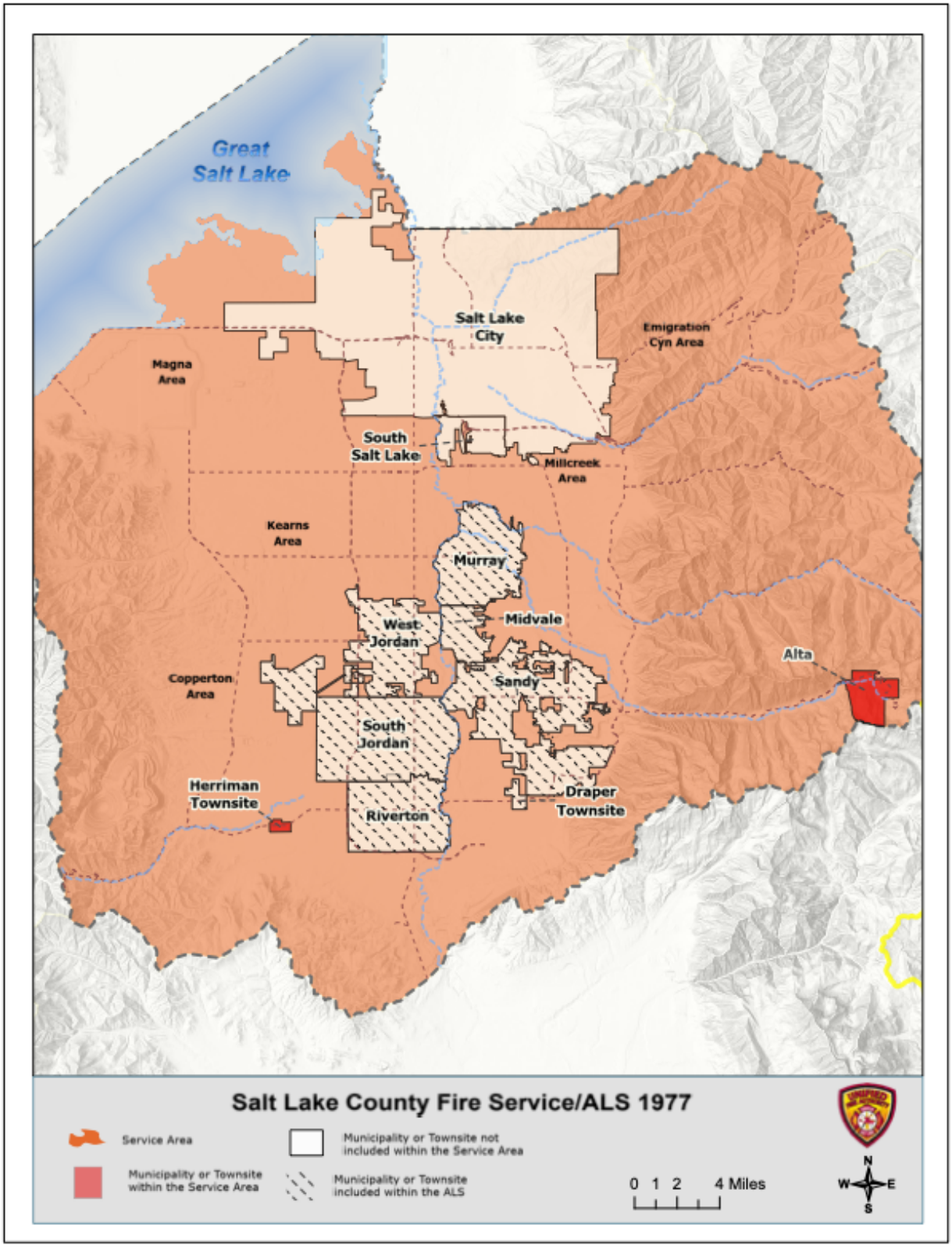
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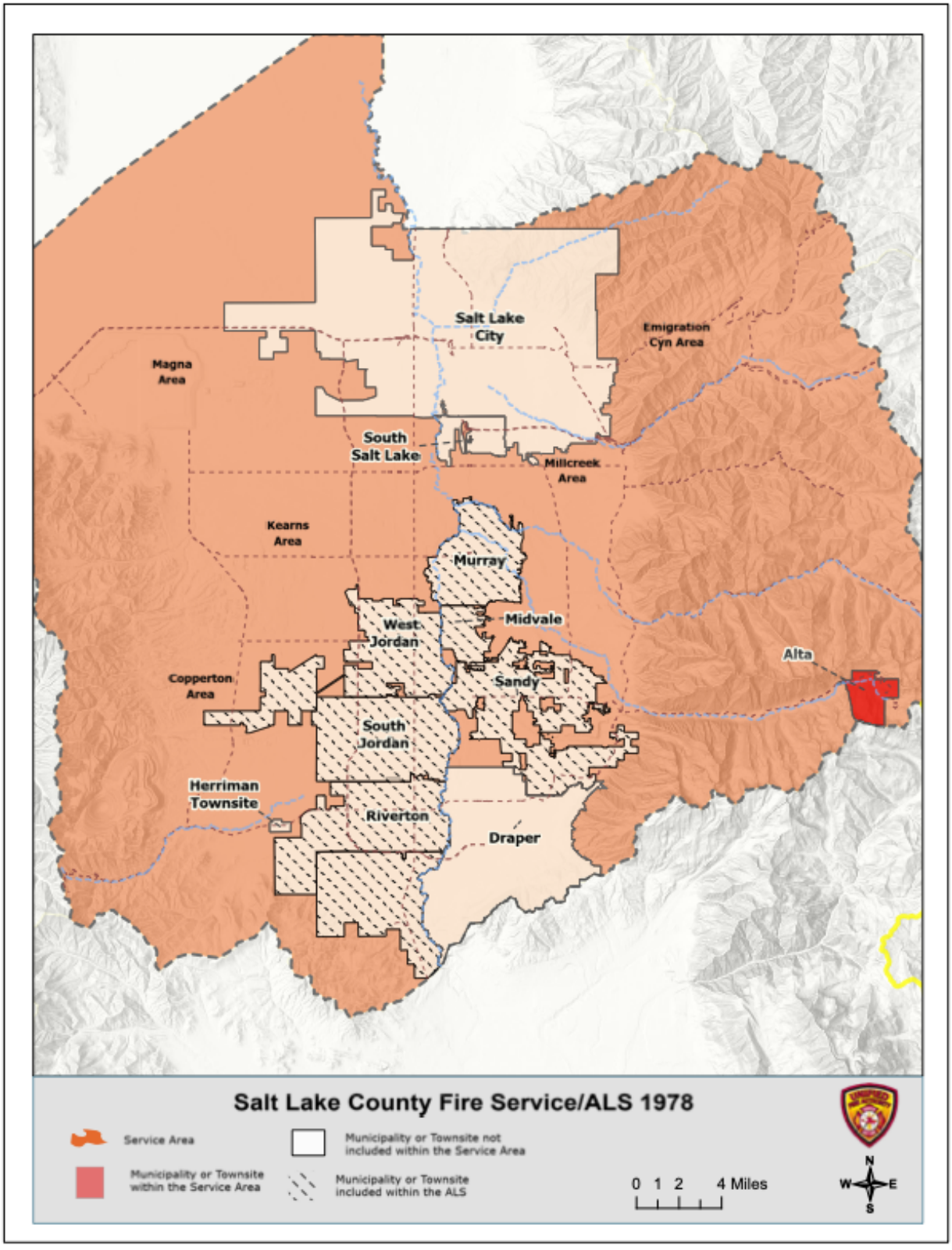
Map 22 - SLCo Fire 1942



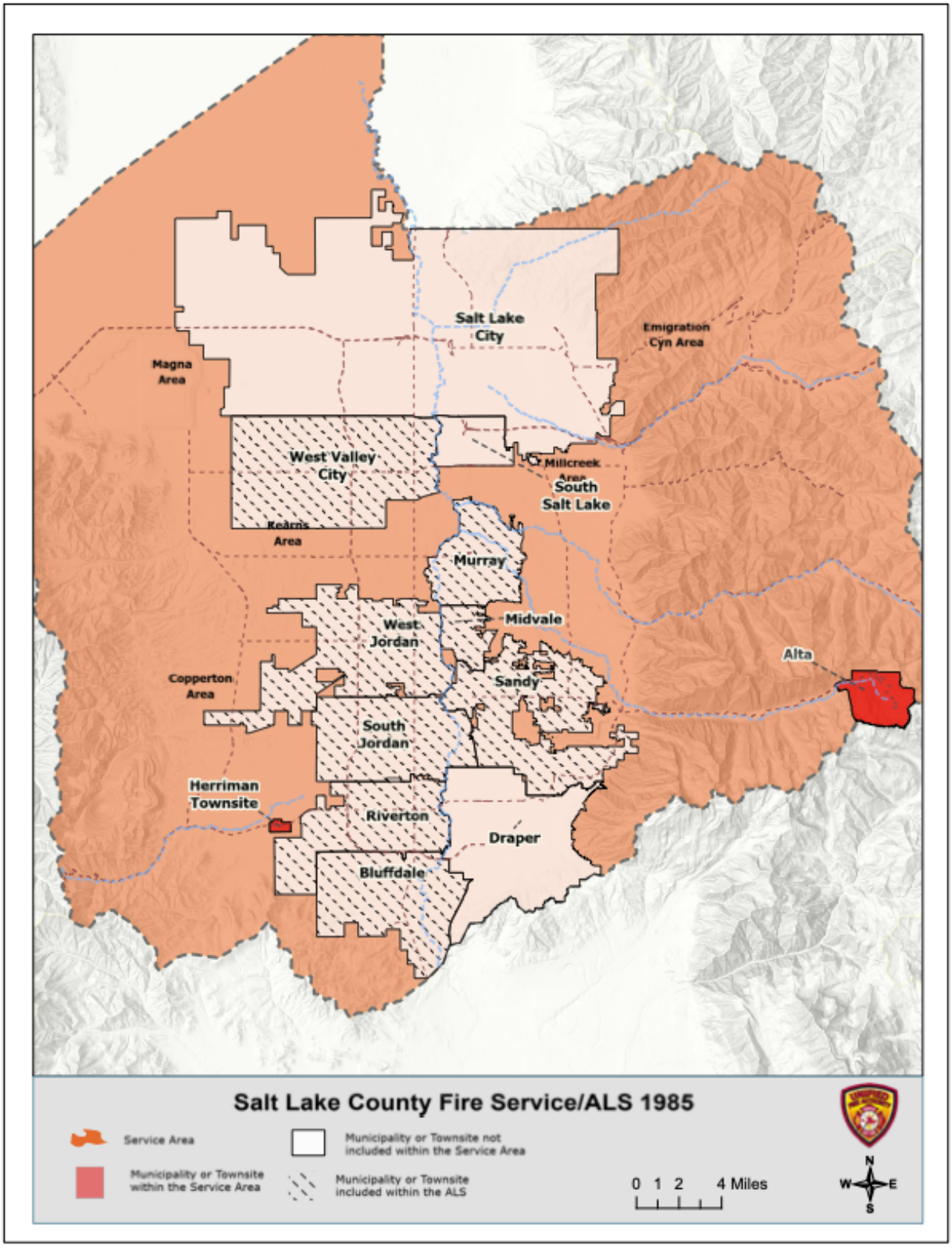
Map 23 - SLCo Fire and ALS 1971



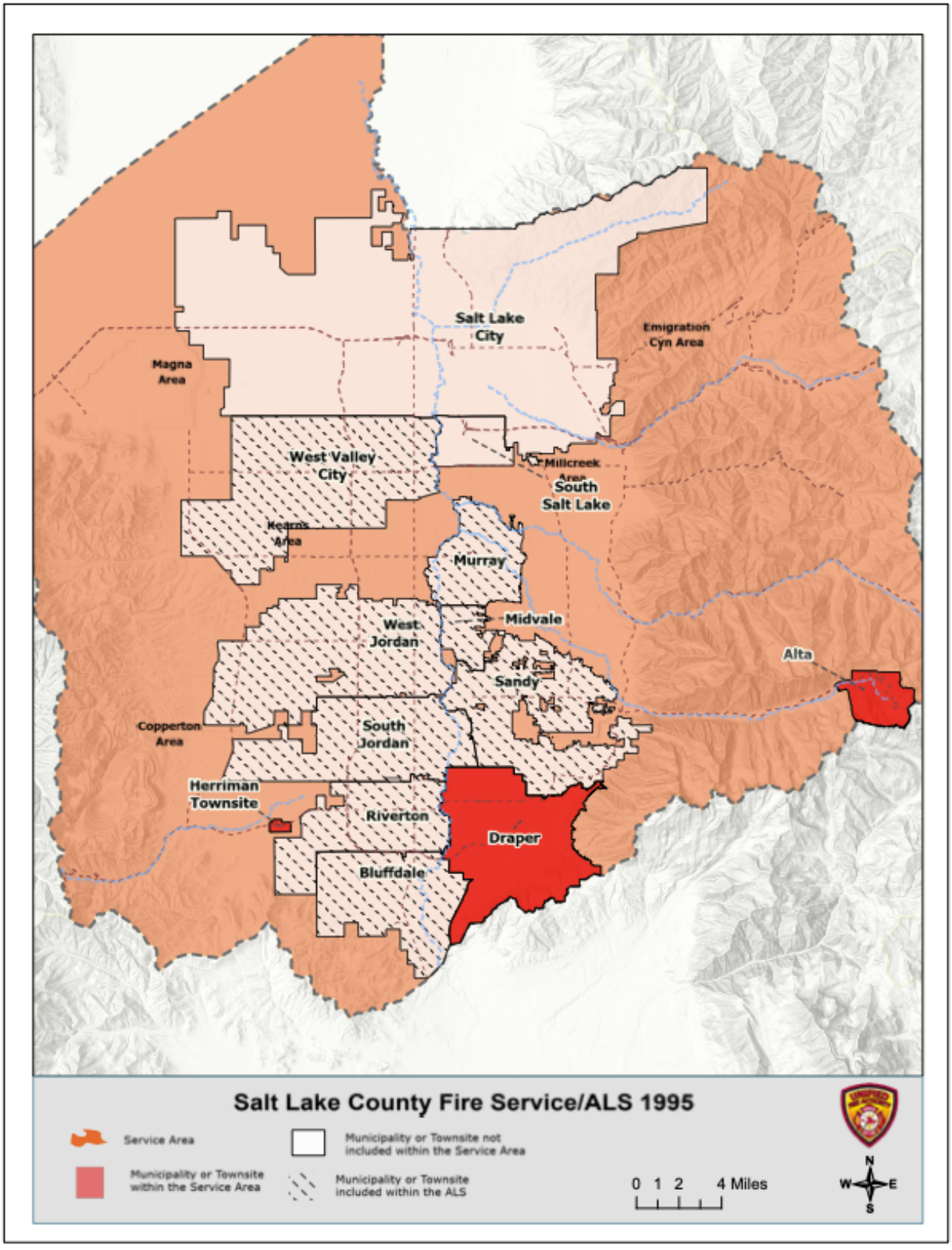
Map 24 - SLCo Fire and ALS 1977



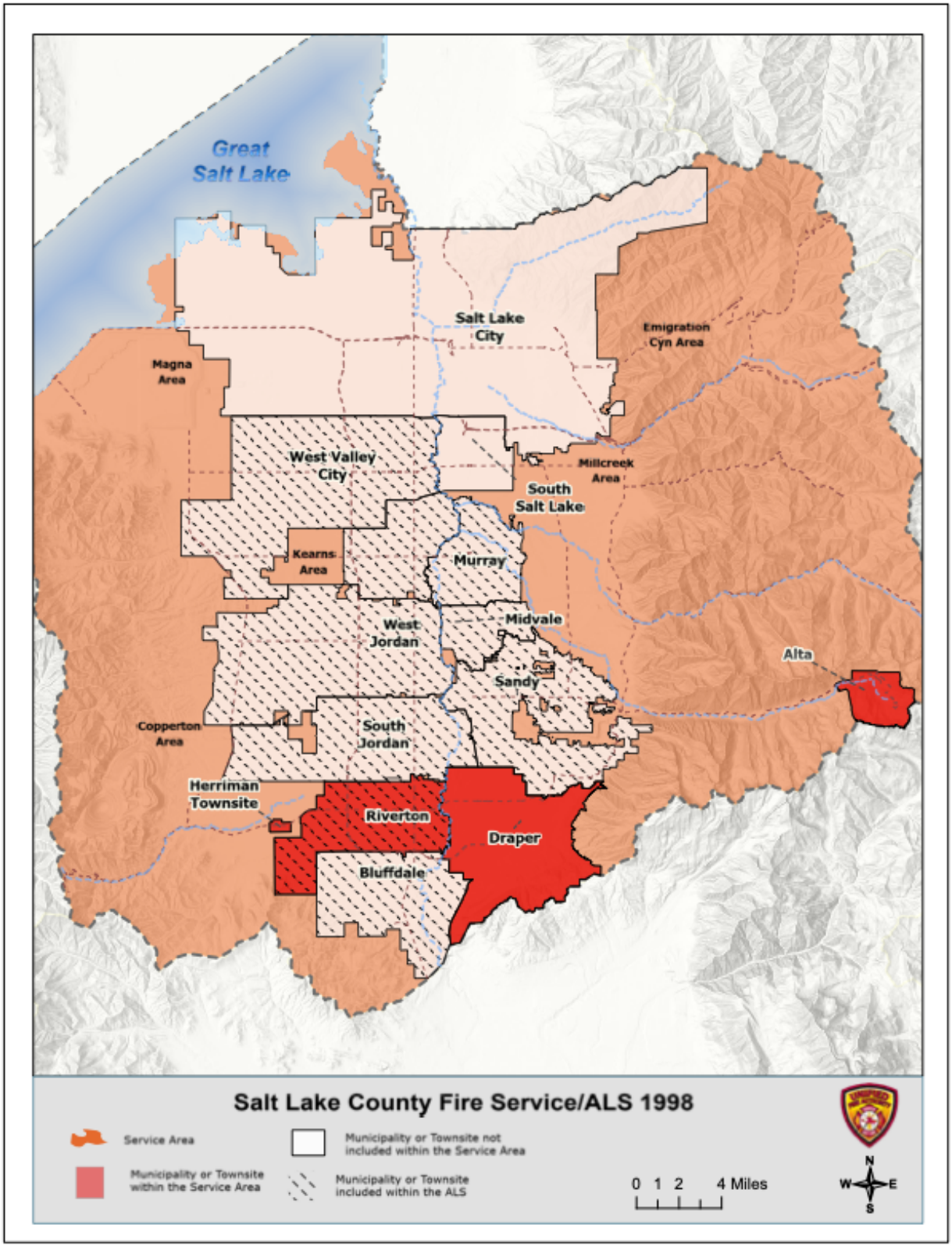
Map 25 - SLCo Fire and ALS 1978



Map 26 - SLCo Fire and ALS 1978



Map 27 - SLCo Fire and ALS 1985

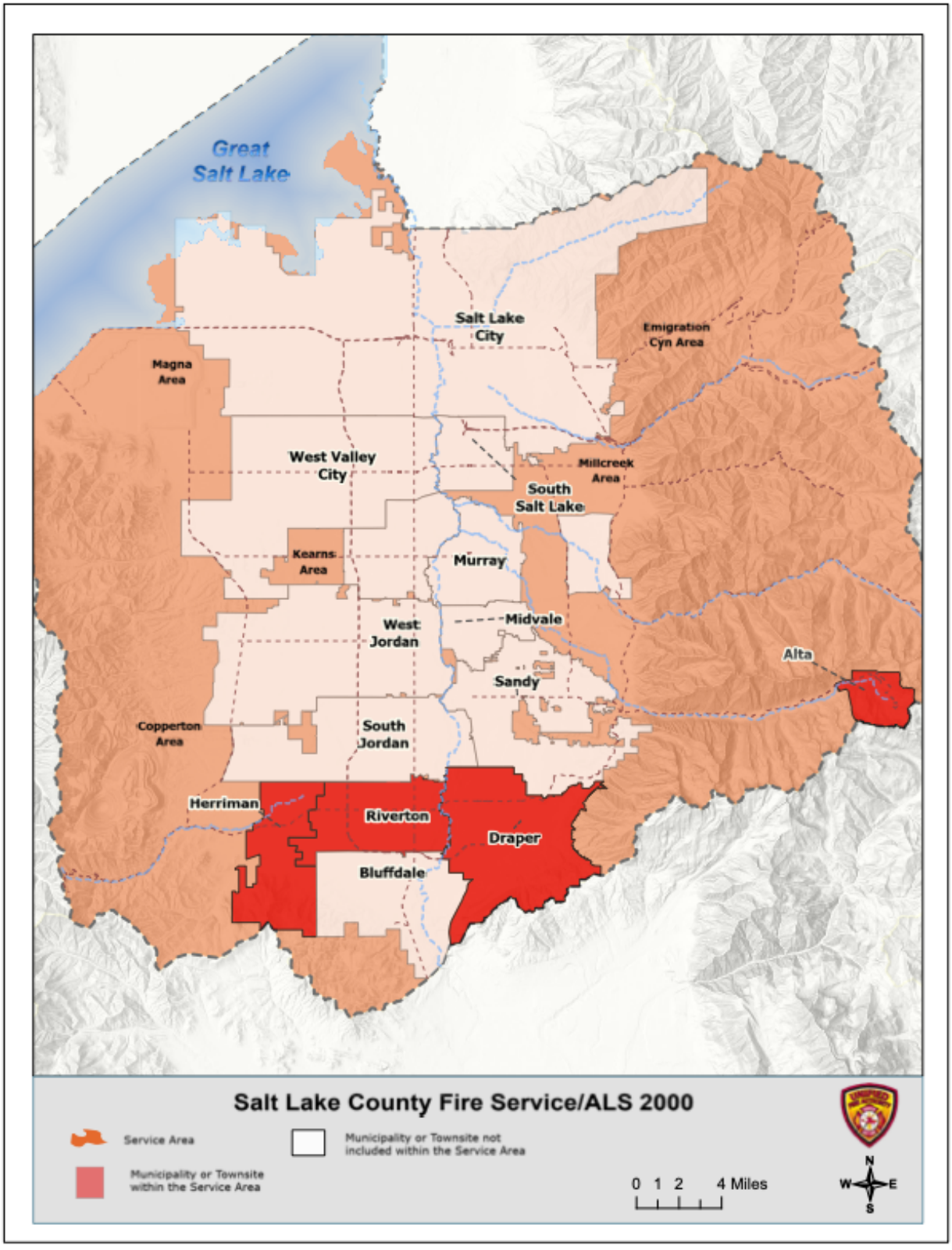


Map 28 - SLCo Fire and ALS 1998

Discussions for the formation of a unified fire department within the Salt Lake Valley began in 1998. For many years, Salt Lake County Fire provided emergency services to several contract cities in addition to the Unincorporated Salt Lake County. While each city appreciated the service delivery of the County Fire Department and wanted to move forward with the relationship, they also recognized some problems with that relationship. There was no direct avenue for the elected officials of their respective cities to vote on current issues or budget proposals, also, changes in the service package for one city might affect another city detrimentally. These points, along with administrative concerns for the ability to develop and carry out long term planning, added to the need to move the department in a different direction.

Additionally, in the 2000 state legislative session, Senate Bill 259 (SB259) was passed, mandating that paramedic services move from being funded by the Salt Lake County general fund to each municipality. Even though some municipalities had begun funding and providing fire services within their communities, Salt Lake County was still paying for ALS services. With the implementation of SB259, the cities of Bluffdale, Midvale, Murray, Sandy, South Jordan, South Salt Lake, West Jordan, and West Valley all moved to maintain their own in-house EMS services.

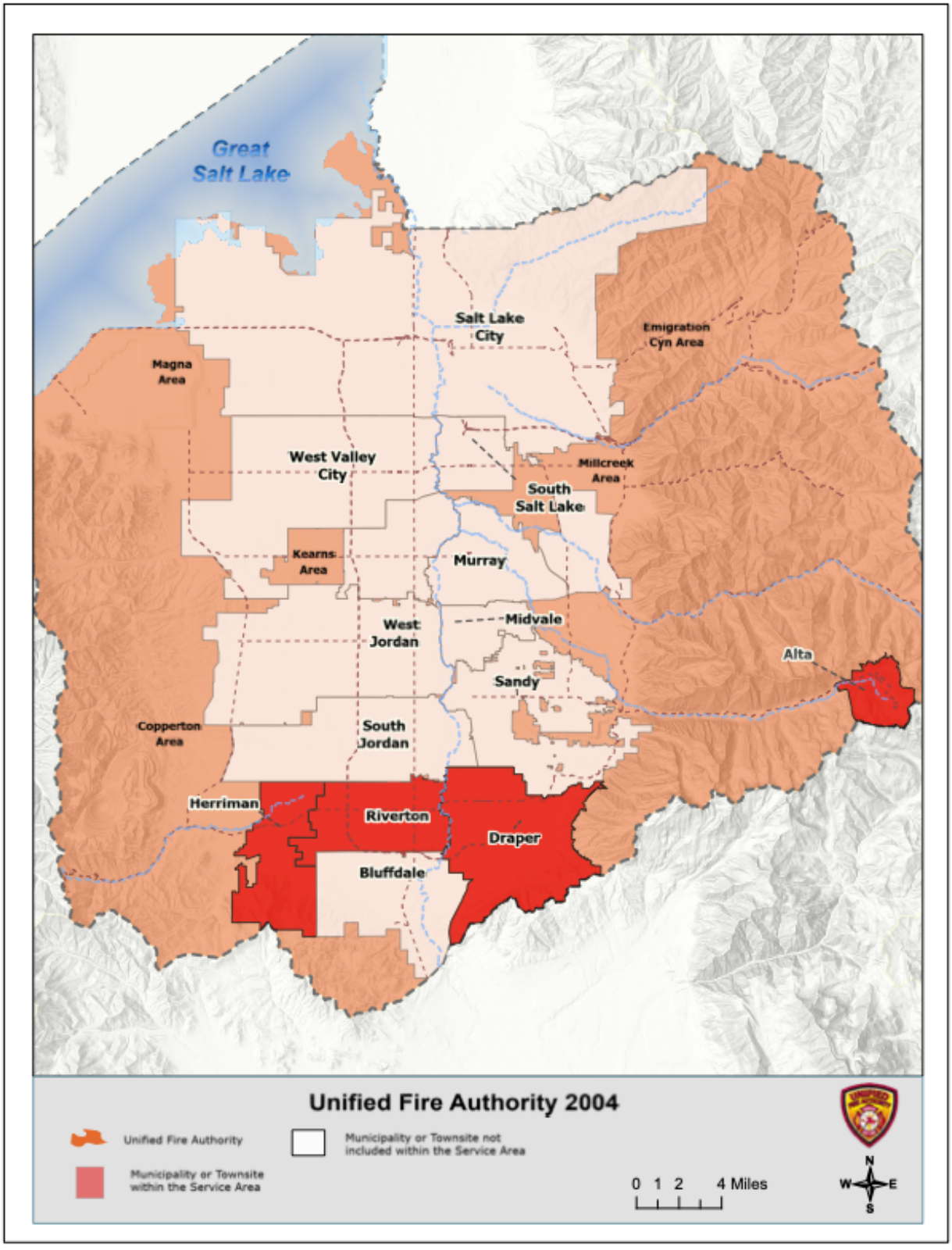
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Map 29 - SLCo Fire and ALS 2000

In September 2003, each of the respective mayors came together with the voting approval of their councils and signed a 50-year agreement creating the Unified Fire Authority. In 2004, the Fire Department ceased operation as a county government entity and became the Unified Fire Authority (UFA), a quasi-governmental organization. At the same time, Salt Lake County leaders worked within the Utah State Legislature to make changes to laws regarding the creation of a Fire District. Once the legal issues were resolved, the County Council took steps to create a fire district for the Unincorporated areas of the County. Unified Fire Service Area (UFSA) was formed, and quickly joined the UFA. The UFSA is a Special Service Area that pays for its services with a property tax. Entities belonging to the UFA may choose whether to pay for services through their own funding or may choose to join the UFSA. Regardless of how an entity joins, they are an owner of the UFA. As an owner of the UFA, members have authority over the budget and local control over the agency.

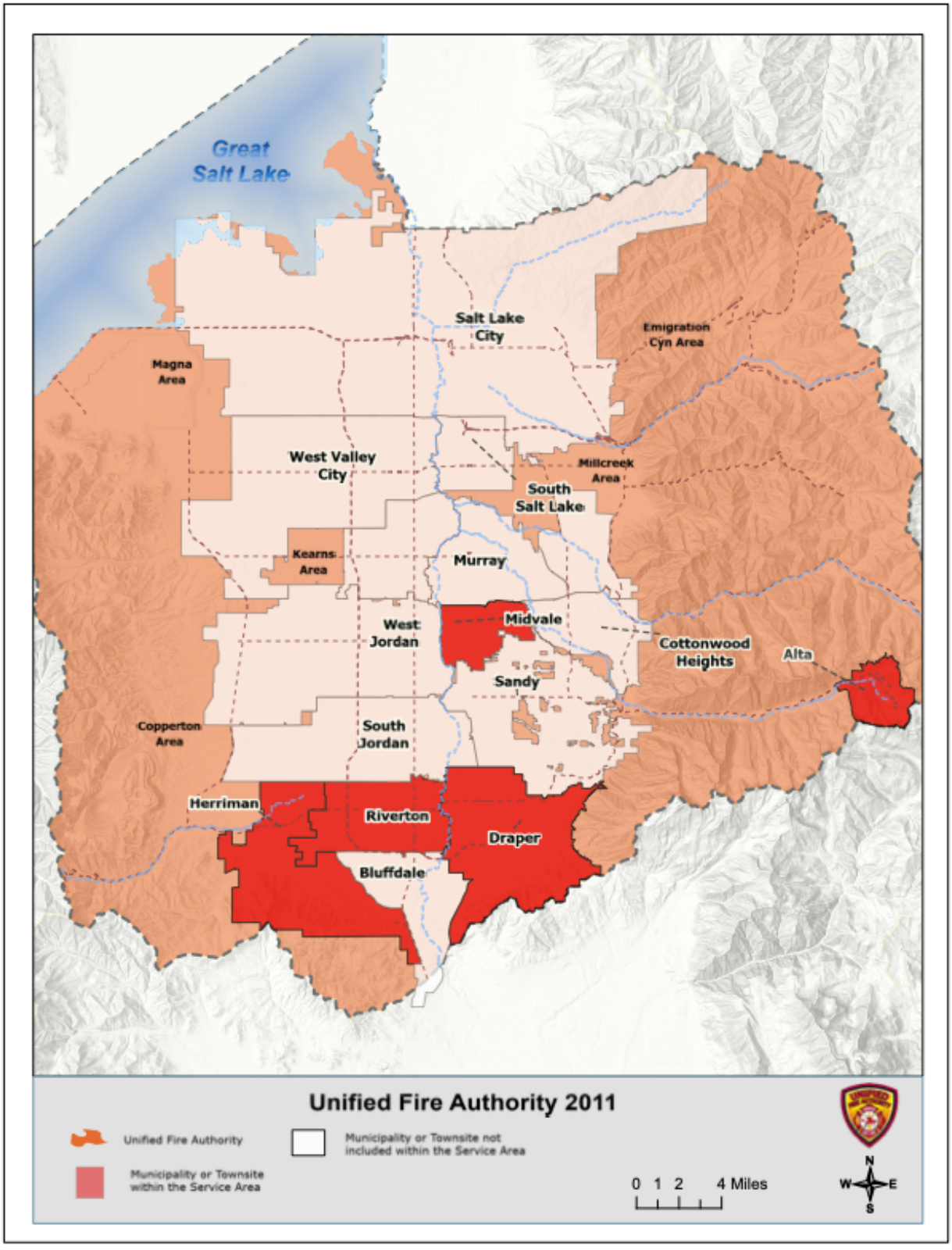
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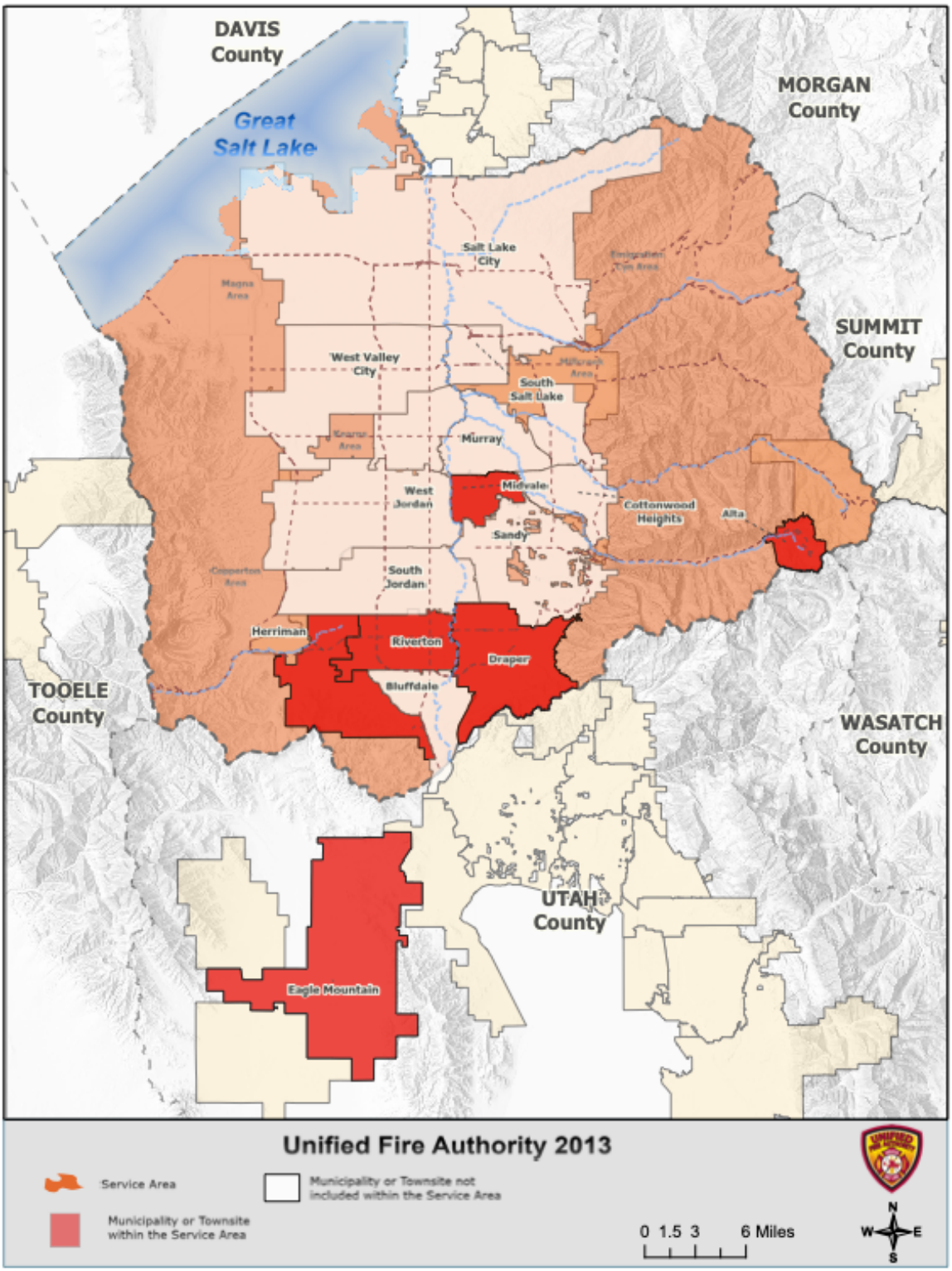
Map 30 - Unified Fire Authority, 2004

On July 1, 2011 Midvale Fire Department merged with UFA, bringing in two additional stations and 52 personnel. On January 1, 2013, Eagle Mountain City merged with UFA, adding two stations and 31 personnel. On July 1, 2017, Draper City left UFA through the Interlocal Agreement process, withdrawing three stations and six personnel from UFA.

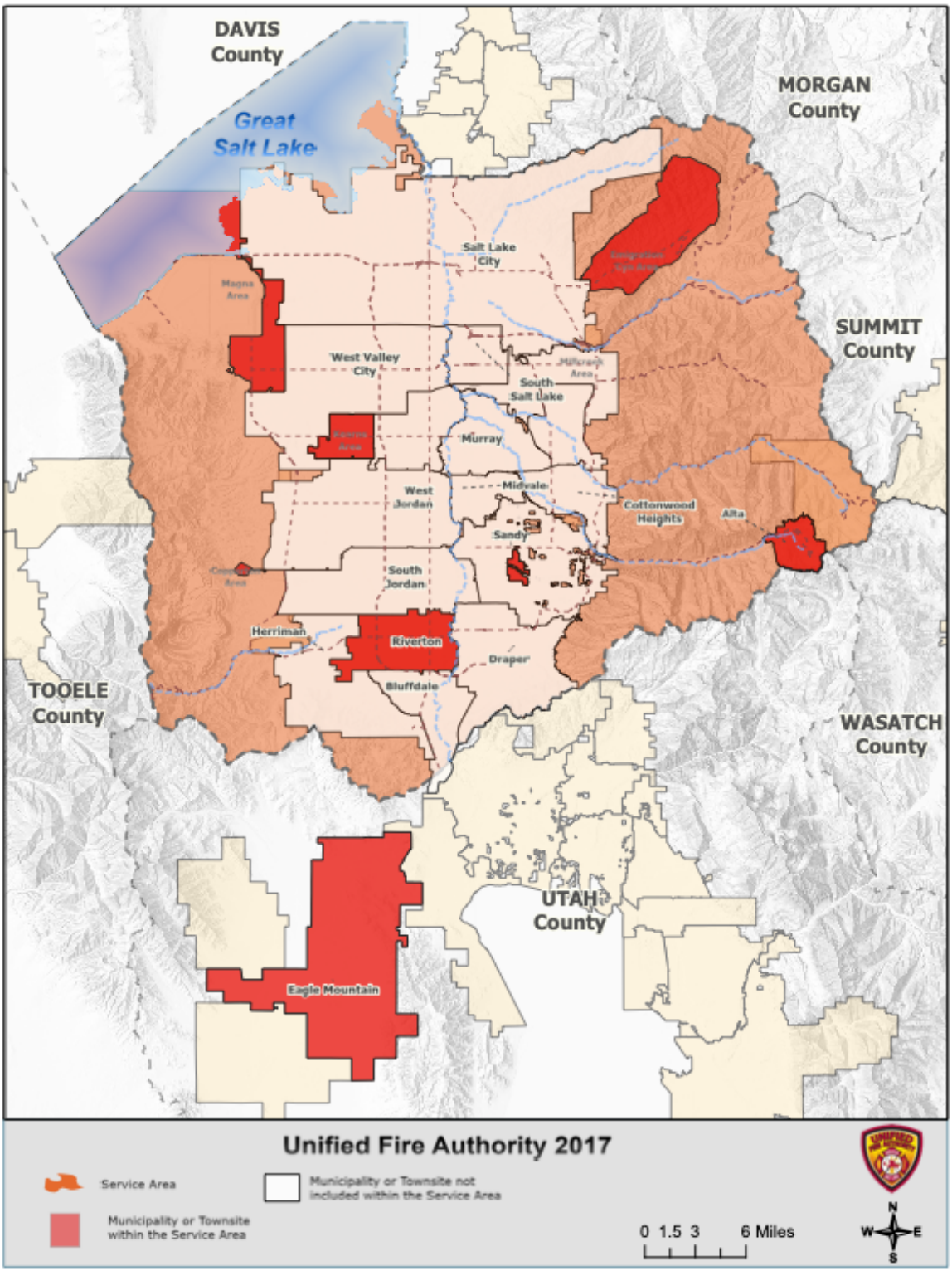
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Map 31 - UFA Response Area 2011



Map 32 - UFA Response Area, 2013



Map 33 - UFA Response Area, 2017

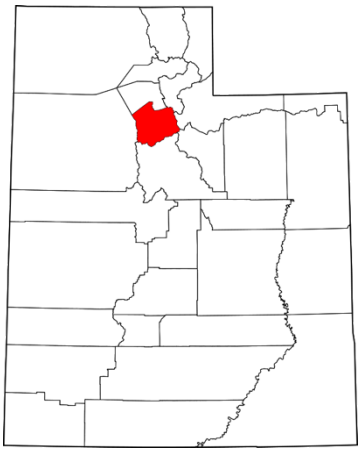
Today, Unified Fire Authority serves roughly 451,000 residents in the Greater Salt Lake Area. UFA operates under the direction of the UFA Board of Directors. These board members are directly appointed by the agency they represent, giving the agency local control. The Fire Chief as the Chief Executive Officer and is the highest-ranking officer at Unified Fire. The Assistant Chiefs are second in command and oversee all day-to-day operations of Unified Fire Authority.

UFA responds to over 30,000 calls per year from 24 fire stations throughout the valley, as well as four other facilities including the Salt Lake County Emergency Operations Center. UFA is also a co-sponsor of Utah Task Force 1, one of twenty-eight FEMA Urban Search and Rescue Teams. Other services provided include a Bomb Squad, a Wildland Fire Division, Water Rescue, Heavy Rescue and Hazardous Materials response. All of these services are accomplished with over 750 dedicated professionals with a variety of skills and experience.

UFA Area Characteristics

The Unified Fire Authority (UFA) is one of 10 fire agencies in Salt Lake County (SLCo). UFA covers 13 communities within the Salt Lake Valley, with Unincorporated Salt Lake County and Eagle Mountain (a city in Utah County, south of Salt Lake County) making the 15 communities served, respectively.

SLCo sits in the middle of the northern half of Utah and currently accounts for just over 70% of the population with approximately 1.184 million residents—in addition to holding just over 75% of the businesses and infrastructure of the State of Utah. There are 23 jurisdictions located within SLCo ranging from townships to cities to unincorporated pockets owned by Salt Lake County.



Map 34 - Salt Lake County, Utah

UFA provides 911 fire and rescue response to the following jurisdictions in Salt Lake County: Town of Alta, Town of Brighton, Copperton Metro Township, City of Cottonwood Heights, Emigration Township, Herriman City, Holladay City, Kearns Metro Township, Magna Metro Township, Midvale

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City, the City of Millcreek, Riverton City, the City of Taylorsville, and White City Township. Additionally, UFA covers Eagle Mountain City in Utah County, as well as contracts for 911 service response to Camp Williams, the Utah Data Center, and Kennecott Rio Tinto. Cities within Salt Lake County not covered by UFA are: Bluffdale City, Draper City, Murray City, Salt Lake City, Sandy City, City of South Salt Lake, South Jordan City, West Jordan City, and West Valley City—each of which provide their own municipal fire department.

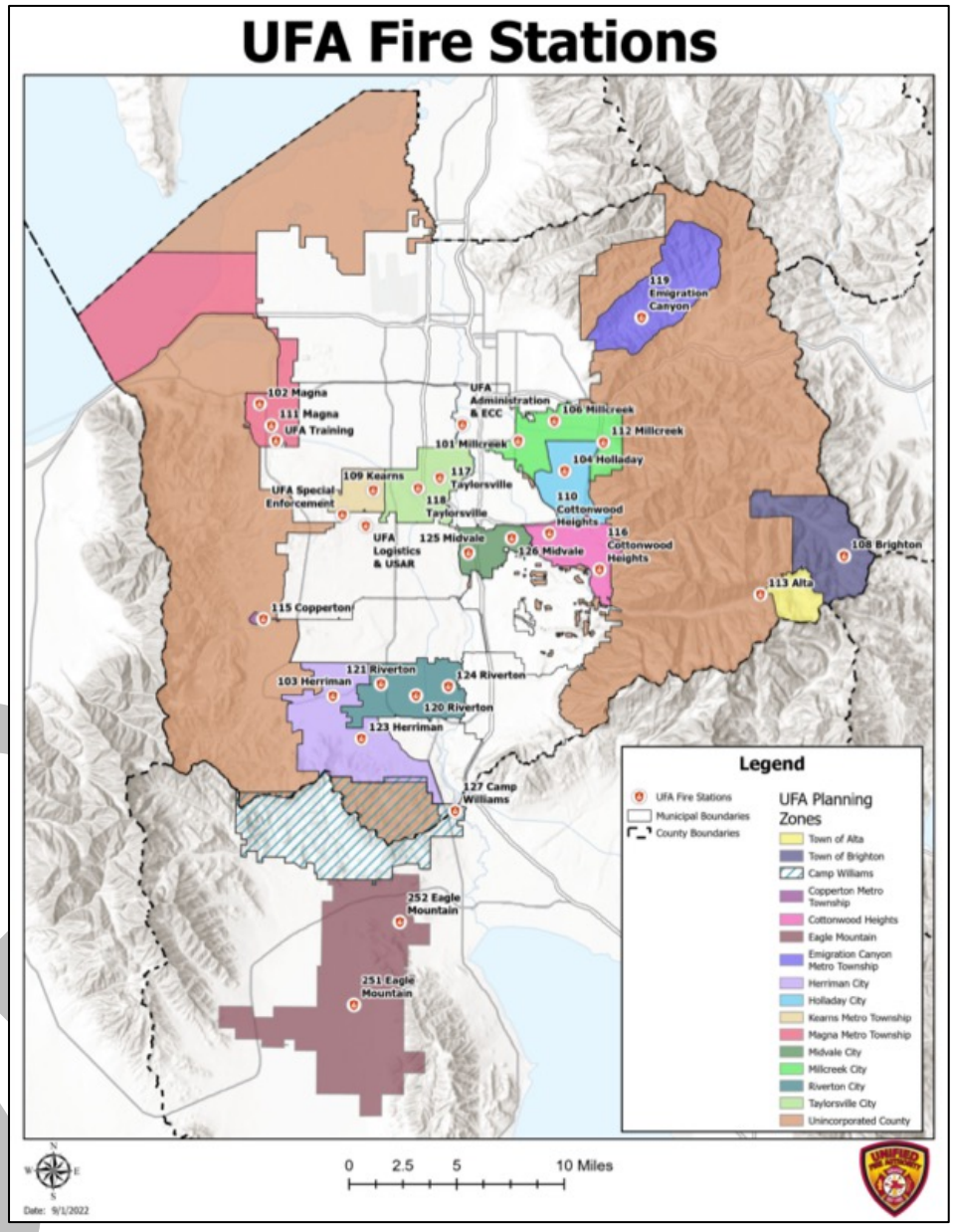
Elevations within UFA's running district range from 4,280 ft in West Millcreek, to 8,760 ft (base of Brighton Ski Resort). UFA's running district has the Wasatch Mountain Range on the East, with the Oquirrh Mountain Range to the West and the valley floor in between. The climate classification of UFA's running district is considered dry, semi-arid and desert. The temperatures range from an average low of 24 °F in December and January, to an average high of 95 °F in June, with an average of over five days a year over 100 °F. The average precipitation is 1.42" per month, with winter months receiving snowfall regularly.

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UFA Data and Information

UFA Station Locations

The Unified Fire Authority (UFA) divides its service area between two counties: Salt Lake County to the north and Utah County to the south. UFA covers 604 square miles overall, covering 527.5 square miles (out of 807) within Salt Lake County and 76.5 square miles in Utah County covering the city of Eagle Mountain. UFA divides that into 3 battalions, covering 15 communities and the unincorporated areas of Salt Lake County with 24 operational stations.



Map 35 - UFA Service Area and Stations

According to the 2019 Kem C. Gardner Policy Institute at the University of Utah, the total population of UFA's running district increased by 51,144 from 2010 to 2019, with one municipality joining UFA (Midvale City in 2011) and one municipality leaving UFA (Draper City in 2017). With the municipality changes, the overall population was 374,435 in 2010 and 430,626 in 2019.

UFA maintains the following fire stations:

Station	Apparatus	Minimum Staffing	Address	Specialty
Station 101	Medic Engine 101 (Type 1) Medic Ambulance 101 Battalion Chief 11	4 2 1	790 E 3900 S, Millcreek	
Station 102	Medic Engine 102 (Type 1) Engine 6102 (Type 6)	4 Cross-Staffed	8609 W Magna Main Street, Magna	WUI Response
Station 103	Medic Engine 103 (Type 1/3) WLDO Supervisor Truck Peak Load Ambulance 203	4 Cross-Staffed 2 (Peak Load)	5916 W 13100 S, Herriman	Wildland Duty Officer & WUI
Station 104	Medic Engine 104 (Type 1) Medic Ambulance 204	4 2 (Peak Load)	2210 E Murray-Holladay Road, Holladay	
Station 106	Medic Ladder 106 (Type 1) Medic Ambulance 206 WTT 106 (Type 1) Engine 6106 (Type 6)	4 2 Cross-Staffed Cross-Staffed	1911 E 3300 S, Millcreek	WUI Response
Station 108	Medic Engine 108 (Type 1/3) Medic Ambulance 108 Engine 6108	3 Cross-Staffed Cross-Staffed	8036 Old Prospect Ave, Brighton	WUI Response
Station 109	Medic Ladder 109 (Type 1) Medic Ambulance 109	4 2	4444 W 5415 S, Kearns	
Station 110	Medic Ladder 110 (Type 1) Medic Ambulance 110 Engine 6110	4 2	1790 Fort Union Blvd, Cottonwood Heights	WUI Response
Station 111	Medic Ladder 111 (Type 1) Medic Ambulance 111 WTT 111 (Type 1) Engine 6111 (Type 6)	4 2 Cross-Staffed Cross-Staffed	8215 W 3500 S, Magna	WUI Response
Station 112	Medic Engine 112 (Type 1) Engine 6112	4 Cross-Staffed	3612 Jupiter Drive, Millcreek	WUI Response
Station 113	Medic Engine 113 (Type 1/3) Medic Ambulance 113	3 Cross-Staffed	9523 Bypass Road, Snowbird	
Station 115	Medic Engine 115 (Type 1) Engine 6115 (Type 6) Air & Light 115	4 Cross-Staffed Cross-Staffed	8495 W State Highway, Copperton	WUI Response Air & Light
Station 116	Medic Engine 116 (Type 1) Medic Ambulance 216	4 (Peak Load, Seasonal)	8303 Wasatch Blvd, Cottonwood Heights	Water Response
Station 117	Medic Ladder 117 (Type 1) Medic Engine 117 (Type 1) Medic Ambulance 217 Heavy Rescue 117	4 4 2 (Peak Load) Cross-Staffed	4965 S Redwood Road, Taylorsville	Heavy Rescue
Station 118	Medic Engine 118 (Type 1) Medic Ambulance 118 Engine 6118 (Type 6) Battalion Chief 13	4 2 Cross-Staffed 1	5317 S 2700 W, Taylorsville	WUI Response

Station 119	Medic Engine 119 (Type 1/3) Engine 6119 (Type 6)	3 Cross-Staffed	5025 Emigration Canyon Rd, Salt Lake City	WUI Response
Station 120	Medic Ambulance 120 Wildland 1 WL Sup Truck 1 WL Sup Truck 2 WL Chase Truck 1 WL Chase Truck 2 SL1 (Type 6) Fuels Crew 1 (Type 6) Fuels Crew Carrier Crew Carrier 1 Crew Carrier 2 Engine 301 (Type 3) Engine 302 (Type 3)	2 1 1 (Seasonal) 1 (Seasonal) 2 (Seasonal) 2 (Seasonal) 4 (Seasonal) 4 (Seasonal) 8 (Seasonal) 10 (Seasonal) 10 (Seasonal) 4 (Seasonal) 4 (Seasonal)	13000 S 2700 W, Riverton	Wildland
Station 121	Medic Ladder 121 (Type 1) Medic Ambulance 121 Heavy Rescue 121 Battalion Chief 12	4 2 Cross-Staffed 1	4146 W 12600 S, Riverton	Heavy Rescue
Station 123	Medic Engine 123 (Type 1) Event Ambulance 223 Engine 6123 (Type 6) WTT 123 (Type 1)	4 2 (Event Only) Cross-Staffed Cross-Staffed	4850 Patriot Ridge Drive, Herriman	Surface Water Rescue WUI Response
Station 124	Medic Engine 124 (Type 1) HazMat 124	4 Cross-Staffed	12662 S 1300 W, Riverton	HazMat
Station 125	Medic Engine 125 (Type 1) Medic Ambulance 225 Engine 6125	4 2 (Peak Load) Cross-Staffed	655 W. Center Street, Midvale	WUI Response
Station 126	Medic Engine 126 (Type 1) Medic Ambulance 126 HazMat 126 Operations Chief	4 2 Cross-Staffed 1	607 E 7200 S, Midvale	HazMat
Station 251	Medic Engine 251 (Type 1/3) Medic Ambulance 251	4 Cross-Staffed	1680 Heritage Drive, Eagle Mountain	WUI Response
Station 252	Medic Ladder 252 (Type 1) Medic Ambulance 252 Engine 6252 (Type 6)	4 2 Cross-Staffed	3785 Pony Express Parkway, Eagle Mountain	WUI Response

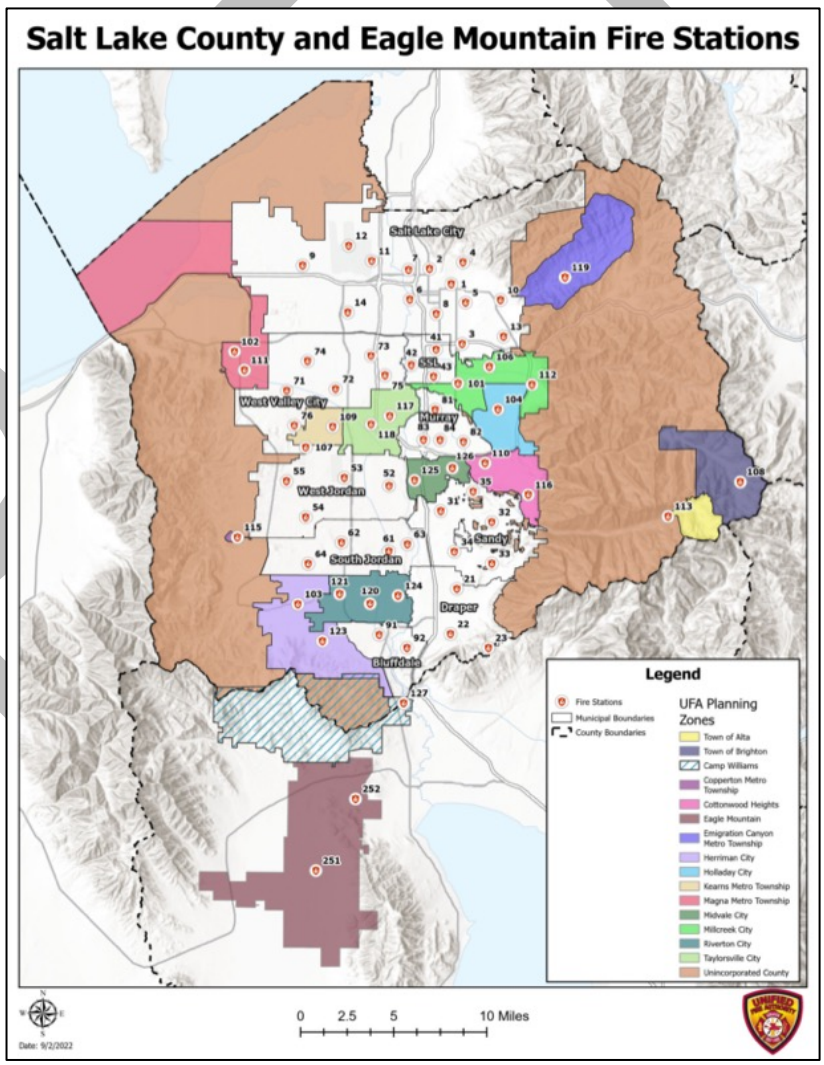
DAILY TOTALS	Full Time Personnel	113 (Hard Floor)
	Part Time Personnel (24 Hour)	4
	Part Time Personnel (Peak Load)	6 (Peak Load)
	Medic Engines, Type 1	12
	Medic Engines, Type 1/3	5
	Engines, Type 6 (Cross-Staffed)	12
	Medic Ladders, Quint	2
	Medic Ladders TDA, Type 1	5
	Medic Ambulances, Full Time	10
	Medic Ambulances, Peak Load	2
	Medic Ambulances, 24-hour Part-Time	2
	Tactical Water Tender, Type 1	3

Table 4 - UFA Fire Stations and Staffing

Mutual and Automatic Aid Locations

Station Locations

The Unified Fire Authority (UFA) relies on mutual and automatic aid within both Salt Lake and Utah Counties for almost all moderate to high-risk responses to incidents. There are a total of nine municipal fire agencies within the Salt Lake Valley outside of UFA. Those are (respectively): Bluffdale City Fire Department, Draper City Fire Department, Murray City Fire Department, Salt Lake City Fire Department, Sandy City Fire Department, South Jordan City Fire Department, South Salt Lake City Fire Department, West Jordan City Fire Department, and West Valley City Fire Department. Collectively, they have a total of 44 stations, with a total of 67 stations within the Salt Lake Valley as a whole (including UFA but excluding Camp Williams). The mutual and automatic aid departments maintain the following fire stations:



Map 36 - Salt Lake Valley Fire Stations

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Salt Lake County Mutual and Automatic Aid				
Bluffdale City Fire – Chief Matt Evans				
Station	Apparatus	Minimum Staffing	Address	Specialty
Station 91	Medic Engine 91 (Type 1) - Tandem Ambulance 91 – Tandem Engine 691 (Type 6) WTT93 Battalion Chief 91	0 0 Cross-Staffed Cross-Staffed 1	14350 S 2200 W, Bluffdale	WUI Response
Station 92	Engine 92 (Type 1) Ambulance 92 Engine 692 (Type 6) Engine 693 (Type 6)	3 2 Cross-Staffed Seasonal	14895 Noell Nelson Dr, Bluffdale	WUI Response
Draper City Fire – Chief Clint Smith				
Station 21	Medic Ladder 21 Medic Ambulance 21 Engine 621 (Type 6) WTT 21 (Type 1)	3 2 Cross-Staffed Cross-Staffed	780 E 12300 S, Draper	WUI Response
Station 22	Medic Engine 22 (Type 1) Medic Ambulance 22 Battalion Chief 21	3 2 1	14324 Fire House Rd, Draper	
Station 23	Medic Engine 23 (Type 1) Medic Ambulance 23	3 Cross-Staffed	14903 Deer Ridge Dr, Draper	
Murray City Fire – Chief Joey Mittleman				
Station 81	Engine 81 (Type 1) Medic Ambulance 81 Engine 681 Battalion Chief 81	3 2 Cross-Staffed 1	4848 Box Elder St, Murray	
Station 82	Engine 82 (Type 1) Medic Ambulance 82	3 2	996 Vine Street, Murray	
Station 83	Engine 83 (Type 1) Medic Ambulance 83	3 2	484 W 5900 S, Murray	
Salt Lake City Fire* – Chief Karl Lieb				
Station 1	Medic Engine 1 (Type 1) Squad 1 (ALS Response Vehicle) Battalion Chief 1	4 Part Time 1	211 S 500 E, Salt Lake City	
Station 2	Medic Engine 2 (Type 1) Truck 2 (Type 1)	4 4	270 W 300 N, Salt Lake City	
Station 3	Medic Engine 3 (Type 1)	4	2425 S 900 E, Salt Lake City	
Station 4	Engine 4 (Type 1) Engine 6041 (Type 6) Engine 6042 (Type 6)	4 2 Cross-Staffed	830 E 11th Ave, Salt Lake City	WUI Response
Station 5	Medic Engine 5 (Type 1) Truck 5 (Type 1)	4 4	1023 E 900 S, Salt Lake City	Heavy Rescue

	Heavy Rescue 5	Cross-Staffed		
Station 6	Medic Engine 6 (Type 1) Engine 6061 (Type 6) Engine 6062 (Type 6)	4 Cross-Staffed Cross-Staffed	948 W 800 S, Salt Lake City	WUI Response
Station 7	Medic Engine 7 (Type 1) Water Rescue 7	4 Cross-Staffed	273 N 1000 W, Salt Lake City	Water Rescue
Station 8	Medic Engine 8 (Type 1) Truck 8	4 4	15 W 1300 S, Salt Lake City	
Station 9	Quint 9 (Type 1 Ladder) Engine 6091 (Type 6) Engine 6092 (Type 6) WT2909 (Type 1)	4 Cross-Staffed Cross-Staffed Cross-Staffed	5822 W Amelia Earhart Dr, Salt Lake City	WUI Response
Station 10	Engine 10 (Type 1) Hazmat 10 (Type 1) Utility 10 (Air & Light)	4 Cross-Staffed Cross-Staffed	785 S Arapeen Dr, Salt Lake City	HazMat
Station 11	Medic Engine 11 (Type 1) RED 2 (ARFF Command Vehicle) RED 3 (ARFF Crash Truck) RED 4 (ARFF Crash Truck) Battalion Chief 2	4 1 1 1 1	581 N 2360 W, Salt Lake City	Airport (ARFF) Response
Station 12	Medic Engine 12 (Type 1) RED 1 (ARFF Command Vehicle) RED 5 (ARFF Crash Truck) RED 6 (ARFF Crash Truck) RED 7 (ARFF Crash Truck)	4 1 1 1 Cross-Staffed	1085 N 4030 W, Salt Lake City	Airport (ARFF) Response
Station 13	Engine 13 (Type 1) Engine 6131 (Type 6) Engine 6132 (Type 6)	4 Cross-Staffed Cross-Staffed	2360 E Parleys Way, Salt Lake City	WUI Response
Station 14	Quint 14 (Type 1) Hazmat 14 Special Ops 14	4 Cross-Staffed Cross-Staffed	1285 S 3800 W, Salt Lake City	HazMat
Sandy City Fire – Chief Jeff Bassett				
Station 31	Medic Tower 31 (Type 1) Medic Ambulance 31 Battalion Chief 31	3 2 1	9010 S 150 E, Sandy	
Station 32	Medic Engine 32 (Type 1) Medic Ambulance 32 Engine 632 (Type 6)	3 2 Cross-Staffed	9475 S 2000 E, Sandy	Rope and Extrication WUI Response
Station 33	Medic Engine 33 (Type 1) Engine 633 (Type 6)	4 Cross-Staffed	2015 E 11270 S, Sandy	WUI Response
Station 34	Engine 34 (Type 1) Medic Ambulance 34 Engine 634 (Type 6)	3 2 Cross-Staffed	10765 S 700 E, Sandy	WUI Response
Station 35	Engine 35 (Type 1) Hazmat 35	4 Cross-Staffed	8186 S 1300 E, Sandy	HazMat
South Jordan City Fire – Chief Chris Dawson				
Station 61	Medic Ladder 61 (Type 1) Medic Ambulance 61 Battalion Chief 61	4 2 1	10758 S 1700 W, South Jordan	

Station 62	Medic Engine 62 (Type 1) Medic Ambulance 62 Engine 362 (Type 3)	3 2 Cross-Staffed	4022 S Jordan Parkway, South Jordan	WUI Response
Station 63	Medic Engine 63 (Type 1) Medic Ambulance 63 Engine 663 (Type 6)	3 2 Cross-Staffed	10451 S 1055 W, South Jordan	WUI Response
Station 64	Medic Engine 64 (Type 1) Medic Ambulance 64 Heavy Rescue 64	4 2 Cross-Staffed	5443 W Lake Ave, South Jordan	Heavy Rescue
South Salt Lake City Fire – Chief Terry Addison				
Station 41	Engine 41 (Type 1) Medic Ambulance 41 Battalion Chief 41	3 2 1	2600 S Main St, South Salt Lake	
Station 42	Engine 42 (Type 1) Medic Ambulance 42 Engine 642 (Type 6)	3 2 Cross-Staffed	3265 S 900 W, South Salt Lake	WUI Response
Station 43	Engine 43 (Type 1) Medic Ambulance 43	3 2	3620 SW Temple, South Salt Lake	
West Jordan City Fire – Chief Derek Maxfield				
Station 52	Engine 52 (Type 1) Medic Ambulance 52 Hazmat 52 Air & Light 52	3 2 Cross-Staffed Cross-Staffed	7950 S Redwood Rd, West Jordan	Hazmat Air & Light
Station 53	Engine 53 (Type 1) Medic Ambulance 53 Engine 653 (Type 6) Battalion Chief 51	3 2 Cross-Staffed 1	7602 Jordan Landing Blvd, West Jordan	WUI Response
Station 54	Ladder 54 (Type 1) Medic Ambulance 54 Heavy Rescue 54	3 2 Cross-Staffed	7602 Jordan Landing Blvd, West Jordan	Heavy Rescue
Station 55	Engine 55 (Type 1) Medic Ambulance 55 Engine 655 (Type 6)	3 2 Cross-Staffed	7750 S 6400 W, West Jordan	WUI Response
West Valley City Fire – Chief John Evans				
Station 71	Engine 71 (Type 1) Medic Ambulance 71 Engine 671 (Type 6) Battalion Chief 71	3 2 Cross-Staffed 1	4160 S 6400 W, West Valley	WUI Response
Station 72	Engine 72 (Type 1) Medic Ambulance 72	3 2	4314 W 4100 S, West Valley	
Station 73	Ladder 73 (Type 1) Medic Ambulance 73 HazMat 73 Engine 473 (Type 4)	3 2 Cross-Staffed Cross-Staffed	2834 S 2700 W, West Valley	HazMat WUI Response
Station 74	Tower 74 (Type 1) Medic Ambulance 74 Medic Ambulance 744 Heavy Rescue 74 Engine 674 (Type 6)	3 2 2 Cross-Staffed Cross-Staffed	5545 W 3100 S, West Valley	Heavy Rescue WUI Response

Station 75	Engine 75 (Type 1) Medic Ambulance 75	3 2	3660 S 1950 W, West Valley	
Station 76	Engine 76 (Type 1) Engine 676 (Type 6)	3 Cross-Staffed	5372 Upper Ridge Rd, West Valley	

Salt Lake County Mutual and Automatic Aid Totals (Excluding Salt Lake City Fire)		
DAILY TOTALS	Stations	24
	Full Time Personnel	124
	Engines, Type 1	19
	Engines, Type 3 (Cross-Staffed)	1
	Engines, Type 4 (Cross-Staffed)	1
	Engines, Type 6 (Cross-Staffed)	10
	Ladder Trucks	4
	Towers	1
	Medic Ambulances, Full Time	21
	Medic Ambulances, Cross-Staffed	2

Salt Lake City Station Totals *Salt Lake City Fire does not respond on medical calls into UFA areas due to a difference in response model. They do, however, respond in on mutual and automatic aid to fire suppression and specialty incidents		
DAILY TOTALS	Stations	14
	Full Time Personnel	76
	Engines, Type 1	12
	Engines, Type 6 (Cross-Staffed)	8
	Ladder Trucks	4
	ARFF Trucks	6

Utah County Contiguous Border Mutual and Automatic Aid				
Saratoga Springs City Fire – Chief Jess Campbell				
Station	Apparatus	Minimum Staffing	Address	Specialty
Station 261	Ladder 261 (Type 1) Medic Ambulance 261 Brush 261 (Type 6) A/L 261	2 2 Cross-Staffed Cross-Staffed	995 W 1200 N, Saratoga Springs	WUI Response
Station 262	Engine 262 (Type 1) Medic Ambulance 262 Brush 262 (Type 6) Brush 263 (Type 3)	2 2 Cross-Staffed Seasonal (Contract)	2015 S Ring Road, Saratoga Springs	WUI Response

Utah County Mutual and Automatic Aid Totals		
DAILY TOTALS	Stations	2
	Full Time Personnel	8
	Engines, Type 1	1
	Engines, Type 3 (Seasonal/Contract)	1
	Engines, Type 6 (Cross-Staffed)	2
	Ladder Trucks	1
	Medic Ambulances, Full Time	2

Table 5 - UFA Fire Stations and Staffing

Other Service Responsibility Areas

UFA has bordering jurisdictions with nine other fire agencies within the Salt Lake Valley and one additional bordering jurisdiction in Utah County. Recently, all VECC agencies and Sandy City Fire within Salt Lake County agreed to move to an automated vehicle locater (AVL) response model for basic life support (BLS) units and transport vehicles with advanced life support (ALS) from within the jurisdictional boundaries. UFA currently runs a one-and-one model, meaning one paramedic with ALS capabilities on any heavy apparatus and one paramedic with ALS capabilities on a transport ambulance. This allows the nearest UFA unit to initiate ALS care in lieu of waiting for the nearest transport ambulance to arrive for ALS care.

UFA also has contract areas where service delivery is provided: Camp Williams, and the Utah Data Center.

UFA Area Data

UFA Running District Total	604 sq miles
UFA Running District Area in Utah County	76.5 sq miles
UFA Running District Area in Salt Lake County	527.5 sq miles
Resident Population	430,000 (est)
Number of Households	139,323
Average Household Income	$76,762
Some College Degree or Higher	69,077 (est)
Bachelor's Degree or Higher	83,617 (est)
Median Single Family Home Value	$325,500 (est)
Population Density	712 / mile
Residential Density	3.08 / mile
Roads, Freeways and Highways	2,141.6 linear miles
UFA General Fund Budget FY 2020-2021	$72,611,447
Cost per Capita by Population Protected	$168.86
Insurance Services Office Rating	2/2X
Number of Fire Stations	24
Minimum Staffing Level per Platoon (3 Platoons)	113
Number of Full-time Sworn Personnel	460
Number of Part-time Personnel	160
Number of Seasonal (Wildland) Employees	50
Number of Support Staff (non-sworn)	50

Table 6 - UFA Statistics

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UFA Budget History

	FY 2020/21	FY 2019/20	FY 2018/19
Personnel Numbers	443 Sworn 58 Civilian	433 Sworn 55 Civilian	421 Sworn 55 Civilian
Personnel	$59,223,490	$57,386,415	$54,730,855
Non-Personnel	$9,596,850	$9,169,647	$8,309,339
Debt Service	$3,659,367	$3,708,762	$3,696,267
Capital Outlay	$131,740	$189,000	$211,995
Total Expenditures	$72,611,447	$70,453,824	$66,958,456

Table 7 - Budget History

UFA Single-Classification Identified Race

The following table and chart demonstrate the approximate single-classification race breakdown within UFA areas for 2020.

Single-Classification Race	Number	Percent of Population
White alone, non-Hispanic	314,851	62.8%
Hispanic or Latino	66,491	13.3%
Black or African American	5,980	1.2%
Asian	12,358	2.5%
Hawaiian or Polynesian	41,468	8.3%
American Indian or Alaskan	46,038	9.2%
Two or more races	14,464	2.9%

Table 8 - Single Classification Identified Race

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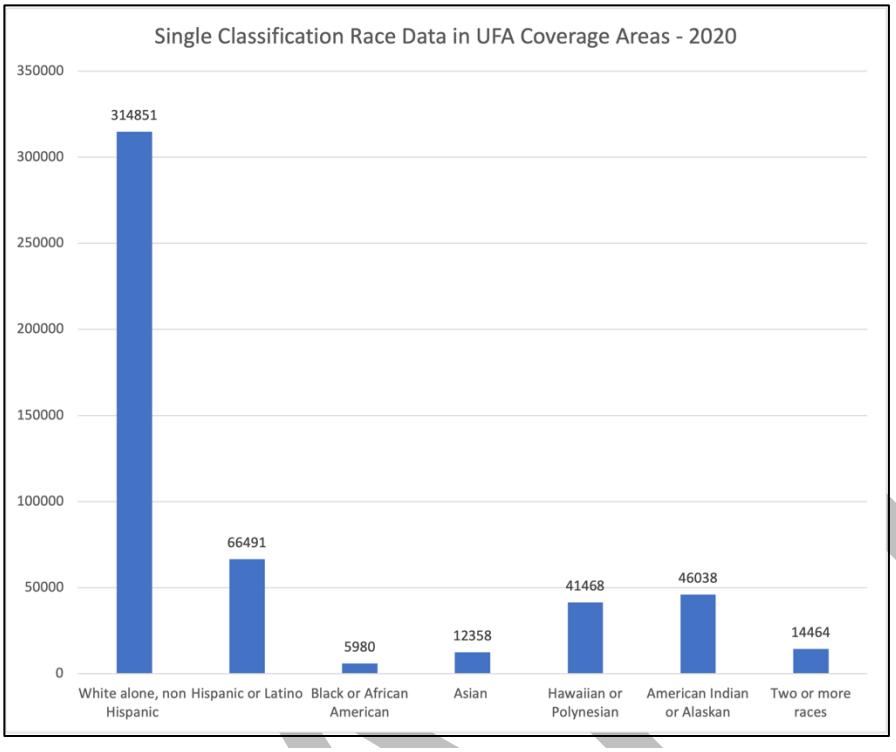


Chart 1 - Single Classification Identification Race

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UFA Transportation & Roadway Information

The following table and chart illustrate the total linear mileage of surface streets, U.S. Highways and State Highways within the UFA response areas.

Planning Zone	Interstates/U.S. Highways	State Highways	Total Linear Mileage
Town of Alta	0	2.17	12.2
Town of Brighton	0	9.97	37.6
Camp Williams	0	1.83	55.1
Copperton Metro Township	0	1.3	4.6
City of Cottonwood Heights	8.5	5.33	152.1
Eagle Mountain	0	6.82	226.5
Emigration Township	0	0	25.7
Herriman City	0	13.9	215.6
Holladay City	9.86	7.16	147.2
Kearns Metro Township	0	4.42	105
Magna Metro Township	12.7	9.4	123
Midvale City	10.65	3	114
Millcreek City	16	10.45	241.2
Riverton City	0	17.85	188.3
Taylorsville City	11.3	17.3	210
Unincorporated Salt Lake County	59.1	53	283.5

Table 9 - UFA Roadway Information

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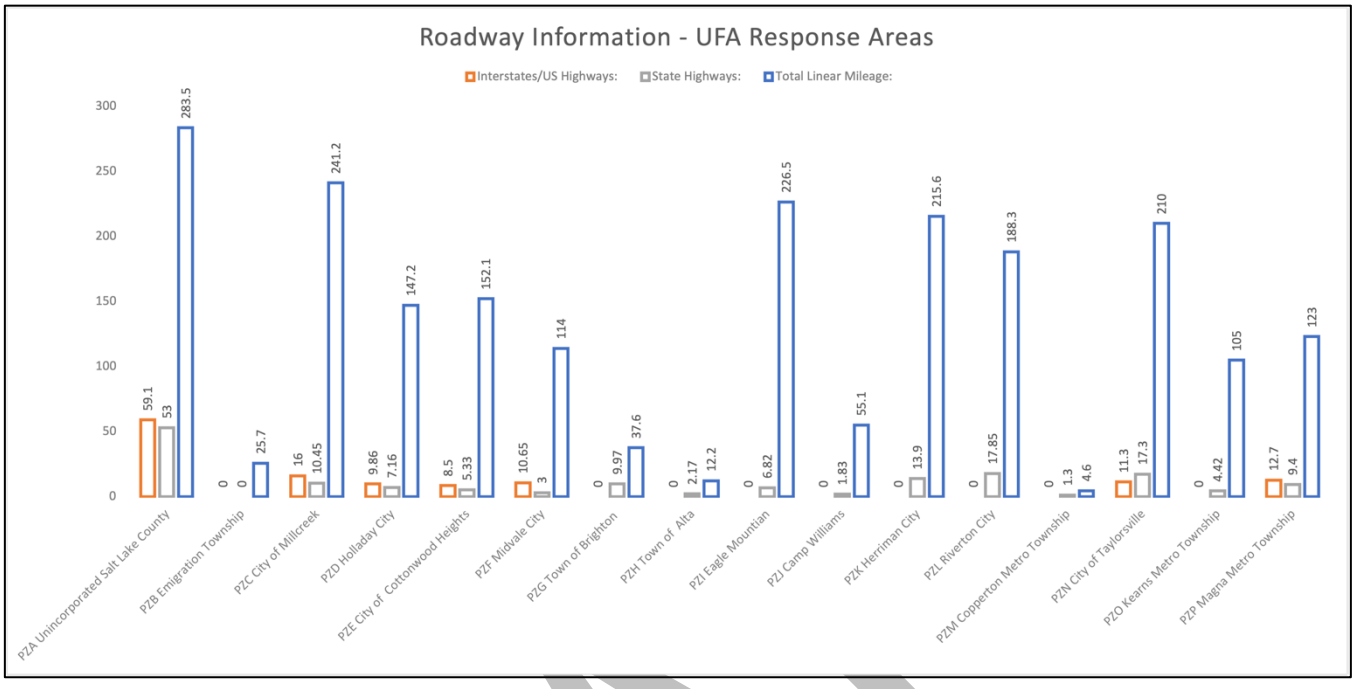
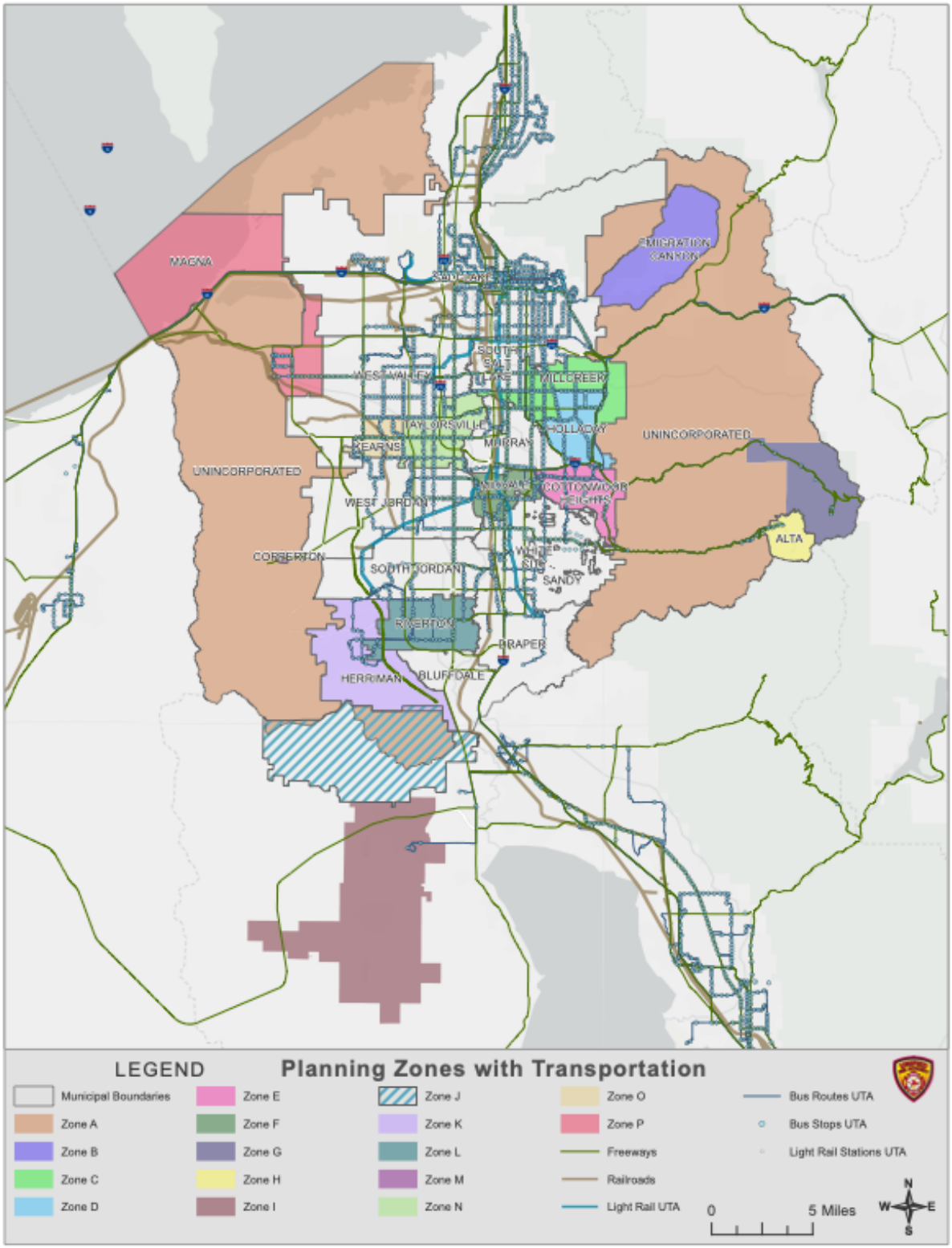


Chart 2 - UFA Roadway Information

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Map 37 - Planning Zones with Transportation Corridors

Public Protection Classification

The public protection classification rating by the Insurance Services Office (ISO) is important to a community. Many insurance companies base the fire risk portion of property insurance premiums on the community's ISO rating. ISO uses a 1 to 10 rating scale, with a Class 1 being the highest level of service — and the lowest fire insurance premium cost — and Class 10, representing no service at all. ISO last surveyed UFA in 2020 and provided UFA with a 2/2X rating. A 2/2X rating means that all properties within 2 road miles of the responding fire station and 1,000 feet of a creditable water supply, such as a fire hydrant, suction point, or dry hydrant. The 2X is the class that applies to properties within 2 road miles of a fire station but beyond 1,000 feet of a creditable water supply. A rating breakdown of the most recent UFA ISO survey is provided below.

ISO Criteria	Actual	Maximum
Emergency Communications	9.89	10.00
Fire Department	35.00	50.00
Water Supply	34.69	40.00
Divergence	-3.34	N/A
Community Risk Reduction	4.99	5.50
Total Score	81.23	105.50

Table 10 - UFA ISO Rating Scores

UFA received a total credit of 81.23 out of a possible 105.50. The table below is the fire department section of the Fire Suppression Rating Schedule, which reviews fire companies (engine and ladder), equipment carried, responses to fires, training, and the number of staffed firefighter positions.

Fire Department	Actual	Maximum
Credit for:		
Engine Companies	5.63	6.00
Reserve Engines	.40	.50
Pumper Capacity	3.00	3.00
Ladder-Service Companies	1.72	4.00
Reserve Ladder-Service Companies	.31	.50
Deployment Analysis	5.83	10.00
Company Personnel	9.17	15.00
Training	6.94	9.00
Operational Considerations	2.00	2.00
Total Score	35.00	50.00

Table 11 - UFA's Fire Suppression Rating Schedule

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Salt Lake Valley Emergency Communications Center (VECC)

The Salt Lake Valley Emergency Communications Center (VECC) is a 911 police, fire and medical emergency services dispatch agency located in West Valley City and is one of two primary public safety answering points (PSAP) for Salt Lake County. VECC was formed under Utah law by six Salt Lake area cities and Salt Lake County in 1988. VECC is one of 11 Tri-Accredited Elite Centers globally in meeting the International Academies of Emergency Dispatch (IAED) High Compliance Expectations in Emergency Medical Dispatching (EMD), Emergency Fire Dispatching (EFD), and Emergency Police Dispatching (EPD). VECC currently provides dispatch services for all UFA communities and 17 of the 19 valley fire agencies—with Sandy City and Salt Lake City being the exceptions. VECC dispatches approximately 2,800 calls for service daily and answers approximately 3,500,911 non-Emergency and police/fire emergency telephone calls annually.[4]

Automatic and Mutual Aid

UFA maintains borders with every municipal fire agency within the Salt Lake Valley as well as two additional fire agencies within Utah County. UFA preserves and tries to cultivate operational relationships with all Salt Lake Valley fire agencies. UFA has mutual and automatic fire aid with all valley fire agencies and all agencies have “stacks” which are agreed upon automatic aid dispatches for all incidents, both fire and EMS. Additional resources exist with the United States Forest Service (USFS), and the Utah Division of Forestry, Fire & State Lands (FFSL) for Wildland Urban Interface (WUI) areas that UFA can contract with during an incident. UFA also participates in the State of Utah Statewide Mutual Aid Act, Utah Code § 53-2a-3 (2013), being available to both provide and receive mutual aid as needed or required through a formal request through dispatch centers. Additionally, there is the Management of Forest Lands and Fire Control Code, Utah Code § 65A-8-2 that provides an insurance policy for wildland suppression costs as long as certain criteria are met from the jurisdictional agencies. UFA also meets the outlined criteria within the code.

[4] https://en.wikipedia.org/wiki/Salt_Lake_Valley_Emergency_Communications_Center

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UFA's automatic and mutual aid agreements allow all participating agencies to utilize dispatch centers, resource application and allocation, communication plans, and technology when mitigating large-scale fire, EMS and 911 responses following natural and man-made disasters.

The following table illustrates the automatic and mutual aid agreements that UFA has both sent and received with other agencies, both within and outside of Salt Lake County. This is measured in hour utilization both given and received.

Agency	Unit Hours Provided by UFA	Unit Hours Given to UFA	Personnel Hours Provided by UFA	Personnel Hours Given to UFA
Bluffdale City	13.97	47.75	42.58	63.52
Draper City	29.02	4.22	98.8	8.13
Murray City	93.35	163.87	336.92	307.68
Salt Lake City	15.73	42.07	27.57	76.97
Sandy City	79.05	83.48	255.55	173.6
City of South Salt Lake	75	69.37	264.22	214.43
South Jordan City	124.78	32.6	420.82	98.73
West Jordan City	82.3	49.75	305.0	140.33
West Valley City	110.28	196.28	374.28	572.45
Total	623.48	689.38	2,125.73	1,655.85

Table 12 - UFA and Surrounding Agencies Hour Utilization

Community Loss and Save Information

Cardiac Arrest Outcomes

UFA tracks all cardiac arrest outcomes. Those individuals that were reported to have cardiac arrests either witnessed or unwitnessed and later were reported with return of spontaneous circulation (ROSC) at the hospital. The numbers provided are from the cardiac arrest registry to enhance survival (CARES). CARES tracks twenty-eight participating states' data and information and tracks them via two categories; the Utstein Criteria, which is defined as a witnessed cardiac arrest in which the initial cardiac rhythm was deemed shockable; and overall survival percentage. Of the twenty-eight participating states, the following averages vs UFA's averages are below.

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Year	CY 2020	CY 2019	CY 2018
Number of Workable Cardiac/Respiratory Arrests	295	235	478
Cardiac/Respiratory Arrests – Declared Obvious Death	222	237	53
Total Arrests	517	472	531
Number of Saves	26	22	Unknown
Percentage of Saves (Number of Saves/Workable)	8.81%	9.37%	Unknown

Table 13 - Cardiac Arrest Outcomes

Year	CY 2020	CY 2019	CY 2018
CARES Cases Reported – UFA	295	235	Not Reported
Overall Survival to Hospital Discharge – UFA (%)	8.81%	9.37%	Not Reported
Utstein Survival – UFA (%)	42.18%	45.47%	Not Reported
CARES Cases Reported – State of Utah	1,417	1,321	Not Reported
Overall Survival to Hospital Discharge – State of Utah	8.1%	8.6%	Not Reported
Utstein Survival – State of Utah (%)	34.5%	26.8%	Not Reported
CARES Cases Reported – Nationally	127,337	100,949	81,864
Overall Survival to Hospital Discharge – Nationally (%)	7.1%	10.5%	10.4%
Utstein Survival – Nationally (%)	29.2%	33.2%	33.3%

Table 14 - CARES Reported Metrics for Cardiac Arrests

Life Safety Fire Outcomes

Life Safety outcomes is the tracking of both fatal fires and firefighter injuries due to fire suppression responses.

Year	CY 2020	CY 2019	CY 2018
Civilian Fatal Fires	1	2	0
Civilian Injury Fires	0	0	1
Firefighter Fatal Fires	0	0	0
Firefighter Injury Fires – Structure	12	14	10
Firefighter Injury Fires – WUI	2	3	2

Table 15 - Life Safety Fire Outcomes, UFA Areas

Fire Loss – Property and Content

Fire Loss – Property Loss

Planning Zone	CY 2020	CY 2019	CY 2018	Total by PZ
Town of Alta	$1,000	$3,001,000	$0	$3,002,000
Town of Brighton	$0	$3,500	$5,000	$8,500
Camp Williams	$0	$0	$0	$0
Copperton Metro Township	$25,000	$21,000	$227,500	$273,500
City of Cottonwood Heights	$508,801	$55,000	$862,250	$1,426,051
Eagle Mountain City	$63,200	$10,460	$78,275	$151,935
Emigration Township	$1,010,000	$205,000	$280,000	$1,495,000
Herriman City	$869,740	$390,700	$633,401	$1,893,841
Holladay City	$303,000	$2,017,600	$338,625	$2,659,225
Kearns Metro Township	$152,450	$467,150	$288,900	$908,500
Magna Metro Township	$662,401	$186,657	$313,850	$1,162,908
Midvale City	$481,700	$284,050	$3,359,070	$4,124,820
City of Millcreek	$369,650	$695,920	$1,131,650	$2,197,220
Riverton City	$27,440	$14,000	$315,200	$356,640
City of Taylorsville	$557,750	$360,549	$618,165	$1,536,464
Unincorporated Salt Lake County	Unknown	Unknown	Unknown	Unknown
Total by CY	$5,032,132	$7,712,586	$8,451,886	$21,196,604

Fire Loss – Content Loss

Planning Zone	CY 2020	CY 2019	CY 2018	Total by PZ
Town of Alta	$100	$100,500	$0	$100,600
Town of Brighton	$0	$0	$0	$0
Camp Williams	$0	$0	$0	$0
Copperton Metro Township	$20,300	$105,000	$150,020	$275,320
City of Cottonwood Heights	$131,901	$23,030	$169,670	$324,601
Eagle Mountain City	$318,500	$3,460	$43,050	$365,010
Emigration Township	$1,000,000	$500	$30,000	$1,030,500
Herriman City	$113,590	$6,080	$250,401	$370,071
Holladay City	$184,500	$110,120	$152,950	$447,570
Kearns Metro Township	$43,150	$153,950	$68,610	$265,710
Magna Metro Township	$73,625	$47,505	$67,700	$188,830

Midvale City	$313,090	$139,250	$186,401	$638,741
City of Millcreek	$73,010	$159,122	$511,400	$743,532
Riverton City	$19,660	$500	$163,400	$183,560
City of Taylorsville	$106,605	$125,600	$303,100	$535,305
Unincorporated Salt Lake County	Unknown	Unknown	Unknown	Unknown
Total by CY	$2,398,031	$974,617	$2,096,702	$5,469,350

Fire Loss – Total Loss

Planning Zone	CY 2020	CY 2019	CY 2018	Total by PZ
Town of Alta	$1,100	$3,002,000	$0	$3,102,600
Town of Brighton	$0	$3,500	$5,000	$8,500
Camp Williams	$0	$0	$0	$0
Copperton Metro Township	$45,300	$126,000	$377,520	$548,820
City of Cottonwood Heights	$640,702	$78,030	$1,031,920	$1,750,652
Eagle Mountain City	$381,700	$13,920	$121,325	$516,945
Emigration Township	$2,010,000	$205,500	$310,000	$2,525,500
Herriman City	$983,330	$396,780	$883,802	$2,263,912
Holladay City	$487,500	$2,127,720	$491,575	$3,106,795
Kearns Metro Township	$195,600	$621,100	$357,510	$1,174,210
Magna Metro Township	$736,026	$234,162	$381,550	$1,251,738
Midvale City	$794,790	$423,300	$3,545,471	$4,763,561
City of Millcreek	$442,660	$855,042	$1,643,050	$2,940,752
Riverton City	$47,100	$14,500	$478,600	$540,200
City of Taylorsville	$664,355	$486,149	$921,265	$2,071,769
Unincorporated Salt Lake County	Unknown	Unknown	Unknown	Unknown
Total by CY	$7,430,163	$8,587,703	$10,548,588	$26,565,954

Table 18 - Property and Content Loss Data

Community Priorities, Expectations and Performance Goals

UFA maintains a rolling three-year strategic plan that was recently just updated and adopted in January of 2021. As part of the strategic planning process, it is important to gather both internal and external stakeholder input and information of what is going well, and where priorities may need to shift. The strategic planning process allows us to ensure that the community expectations are being met and those items that may need to be addressed are addressed.

During the 2018-2021 process, UFA held in-person meetings with a broad reach of external stakeholders. Due to the restrictions of COVID-19 while the latest strategic plan, UFA held six stakeholder meetings, with four of them being community meetings, one being with our Salt Lake Valley law enforcement partners and one with our Salt Lake Valley fire department partners. These discussions allowed UFA to provide an overview of our current services provided to the communities. Then there was an open conversation about perceived strengths, weaknesses, opportunities and challenges. The stakeholder meetings also allowed attendees to outline their priorities and expectations. Many of these stakeholders are elected officials and members of the community, with fifty-five attendees spread across the six meetings.

Out of those meetings, the following goals and initiatives were identified. Key sustaining goals are: best practices, community and partner involvement, resilient culture, professional development and well-being of UFA personnel. The key identified initiatives are: enhanced leadership, improved emergency services delivery, improved community involvement and improved behavioral health.

Additional strategies falling from the initiatives are:

Initiative 1 - Enhanced Leadership

Focused effort on providing the tools to effectively meet or exceed the expectations of leaders to provide for effective and sustained leadership.

- Establish programs for the development and preparation of personnel for leadership positions
- Continue delivering the Leadership Cohort with CenterPoint

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- Introduce and institutionalize a Mission-Driven Culture
- Establish leadership competencies for selected positions
- Establish a formal mentorship and task book program for the positions of Captain and Battalion Chief that culminates in an assessment to qualify personnel to act in those positions
- Prepare interested Chief Officers for the position of Fire Chief and establish an effective transfer of command for the Unified Fire Authority

Initiative 2 - Improved Emergency Services Delivery

Review and act on the initiatives in the Standards of Cover (SOC) to improve delivery of emergency services.

- Determine the right staffing and configuration of resources to effectively solve the problems identified in the SOC
- Adopt and work towards achieving a benchmark for call processing and turnout time
- Establish regional fire and medical protocols that allow Salt Lake Valley agencies to perform critical assignments in a consistent and effective manner
- Support Operations personnel with programs, tools and opportunities that will enhance and improve their ability to provide effective emergency service delivery

Initiative 3 - Improved Community Involvement

Enhance engagement with our communities as their local fire department through the support and administration of community events and activities.

- Enhance the Liaison Program to improve UFA's availability to municipal administrations
- Engage with the public in an effective and proactive manner during community activities
- Foster partnerships with local law enforcement agencies operating in the municipalities we serve, bringing added value to the community
- Increase our municipalities awareness of the services available from UFA that may help their communities
- Strengthen UFA's social media efforts to support and inform our communities
- Improve outreach to the diverse populations within the UFA service area
- Support and improve recruitment efforts that reach diverse populations throughout our community

Initiative 4 - Improve Behavioral Health

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Taking care of our behavioral health and well-being to ensure UFA employees are mentally healthy and resilient throughout a career that often places them in stressful and traumatic situations.

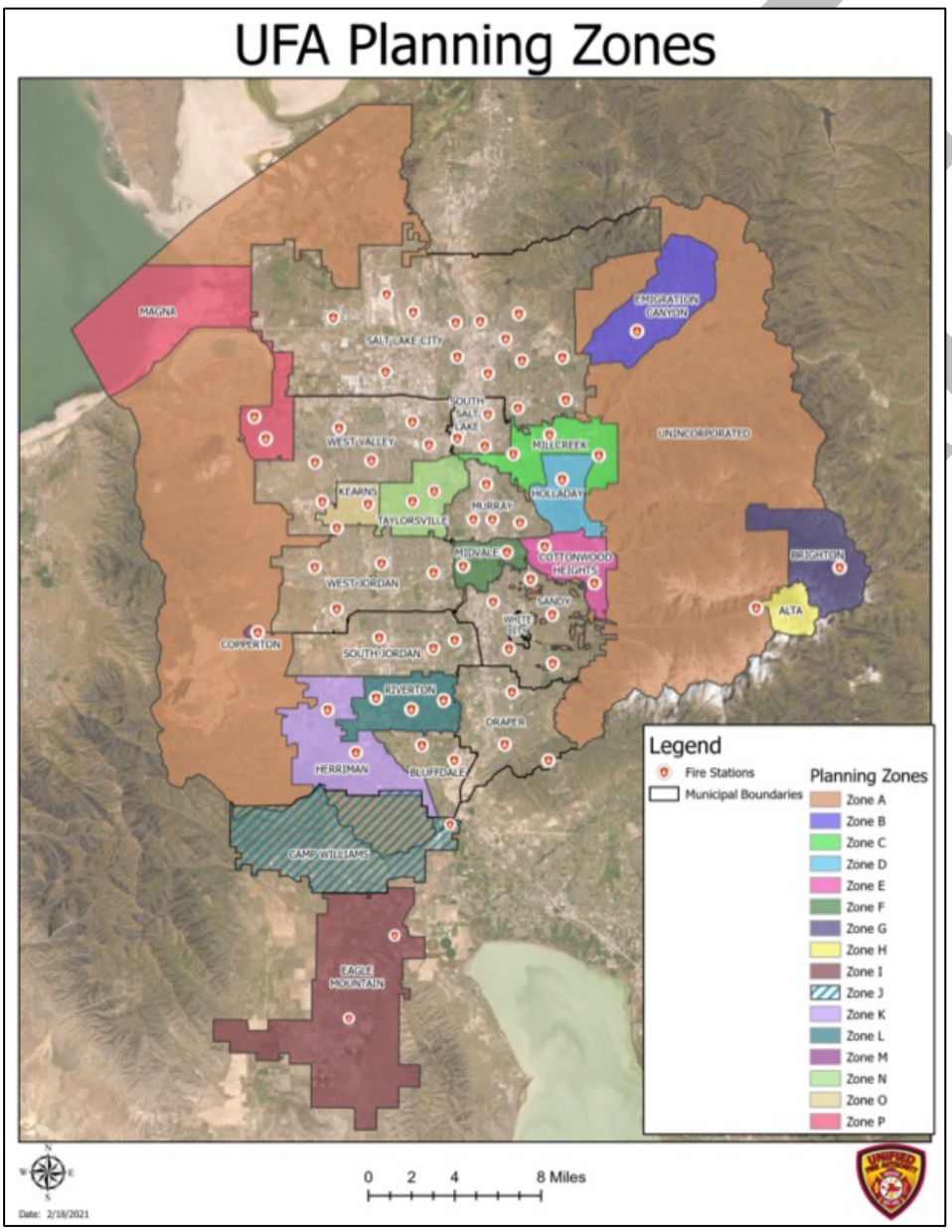
- Fortify existing employee behavioral health programs that are available
- Expand the Peer Support Program
- Provide training to improve behavioral health resiliency for all employees
- Identify and reduce the number of barriers for employees to seek and receive routine wellness checkups before any sign of a problem
- Improve both access and willingness of employees to quickly receive treatment at the first sign of an issue
- Improve and expand access for employees to receive treatment for depression, anxiety and post-traumatic stress disorder (PTSD)
- Expand access for employees to receive treatment to overcome suicidal thoughts or the desire to turn to substance abuse
- Improve programs for all employees to be aware of co-workers' mental health struggles and provide resources to help
- Continue to review our practices looking for opportunities to reduce unnecessary stressors

For a more detailed outline of all of the goals and objectives, refer to UFA's Strategic Plan 2021-2023, which was adopted in January of 2021.

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UFA Geographic Planning Zones

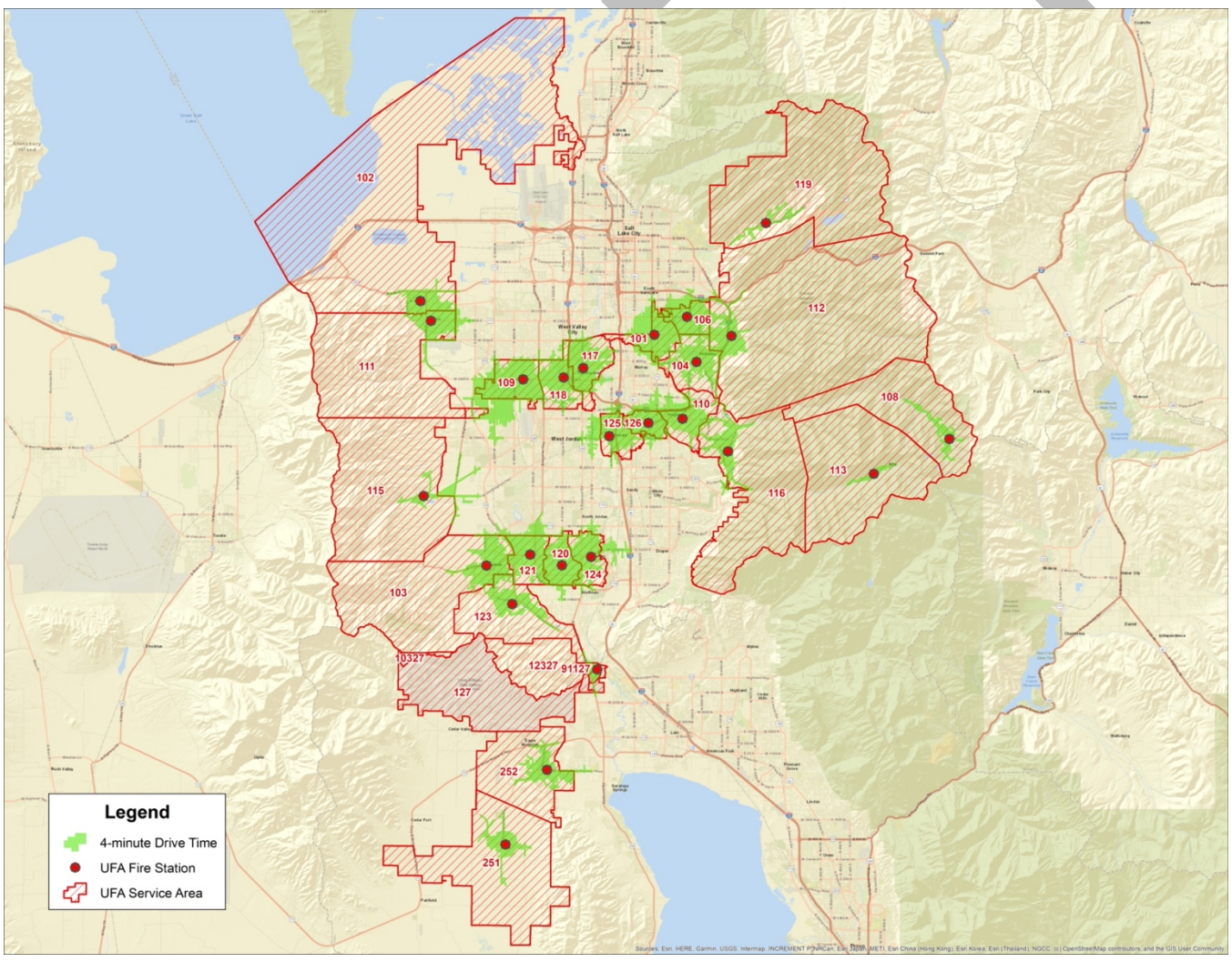
UFA is divided into sixteen geographic planning zones (PZ). Those PZs cover the fourteen municipal jurisdictions plus unincorporated Salt Lake County. Additionally, one zone covers Camp Williams as UFA has both contractual obligations and fire response within the Camp Williams boundary. Within the sixteen PZs, there are twenty-four operational stations, one station in the Camp Williams running area, and four additional structures that house UFA headquarters, UFA Investigations Division, UFA Logistics Division / Urban Search & Rescue, and UFA's Fire Training Division.



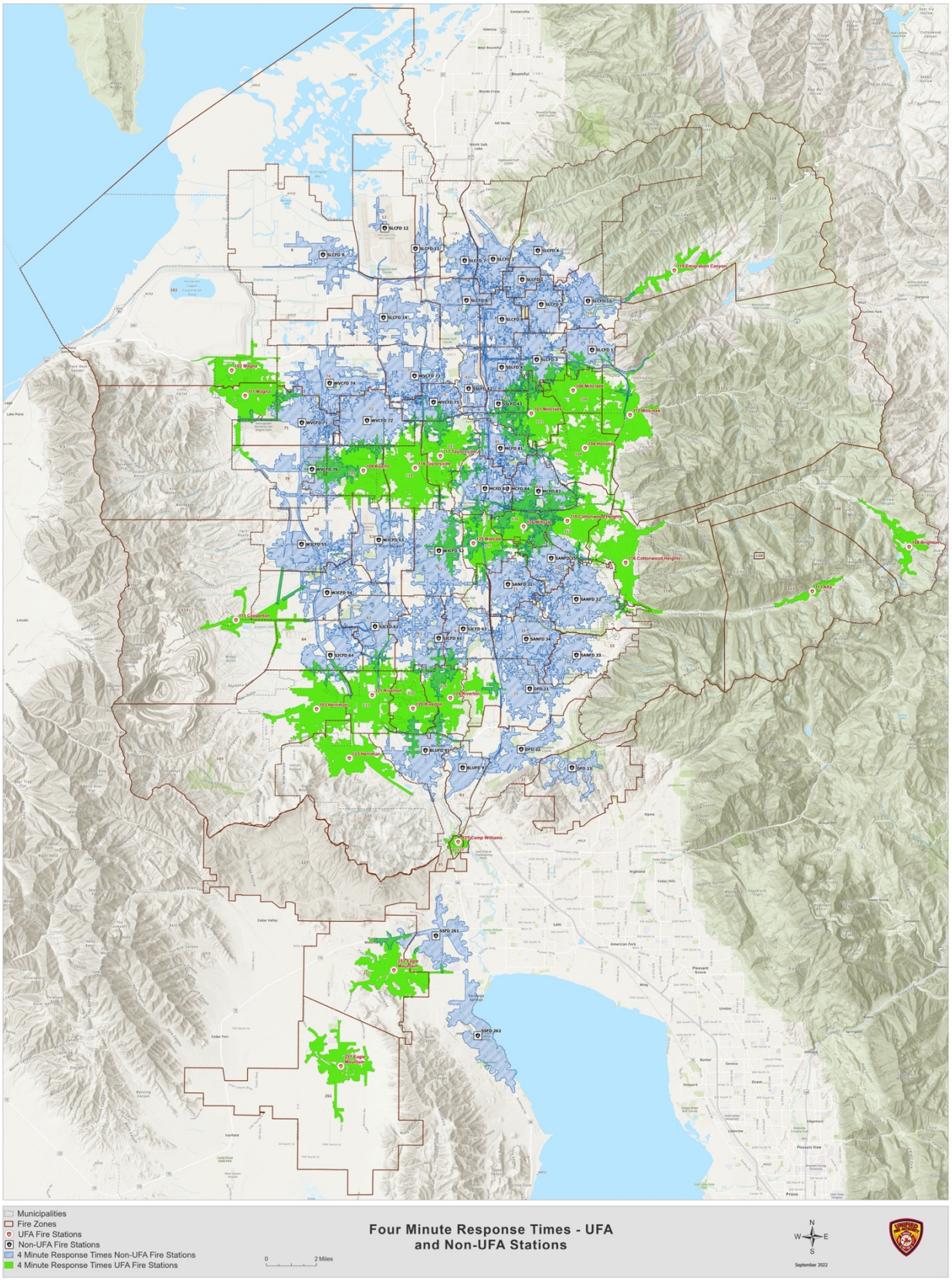
Map 38 - UFA Planning Zones

Planning Zone	Square Miles
Town of Alta	4.1
Town of Brighton	16
Camp Williams	47
City of Cottonwood Heights	9.23
Copperton Metro Township	0.31
Eagle Mountain City	50.43
Emigration Township	18.98
Herriman City	21.63
Holladay City	8.5
Kearns Metro Township	4.63
Magna Metro Township	37.48
Midvale City	5.92
City of Millcreek	12.77
Riverton City	12.58
City of Taylorsville	10.85
Unincorporated Salt Lake County	390.59

The following map shows UFA response areas with a four-minute travel time. One of the primary standards of the National Fire Protection Association (NFPA) 1710, which identifies many of the standards that full-time fire departments strive for, one of the primary standards is having the first arriving engine arrive on scene within four minutes of being turned out (i.e., dressed in PPE) with four-handed staffing for ninety percent of all responses. The two maps below shows UFA's current areas for a four-minute travel time from each fire station, as well as automatic- and mutual-aid . There are several areas that are considered rural or canyon communities or are otherwise uninhabited so a four-minute response time may not be needed or warranted. To see individual four- and eight-minute response times per municipality, refer to each respective municipal section.



Map 39 - Four-Minute Travel Times for UFA



Map 41 - 4-Minute Travel Times, UFA and Aid

The following map shows the population density in UFA. The Kearns Metro Township planning zone has the highest population density at 7,847 per square mile, while the Town of Brighton planning zone has the lowest at 14 per square mile. Most of UFA's response and service areas have been built out, although there are several communities and pockets of Salt Lake County that are expanding, and annexation of unincorporated lands are still possible. UFA monitors these areas and if annexation is being proposed, UFA (in coordination with the communities), identifies the level of service appropriate for the community based off target hazards, properties, and population density.

UFA defines population density by the following criteria, based off of the International City/County Management Association (ICMA) split between urban and rural. The following categories fall under each of those, respectively (for purposes of this categorization, if either of the population criteria are met, e.g., population per square mile or population over a certain number, that planning zone was accordingly categorized):

Urban

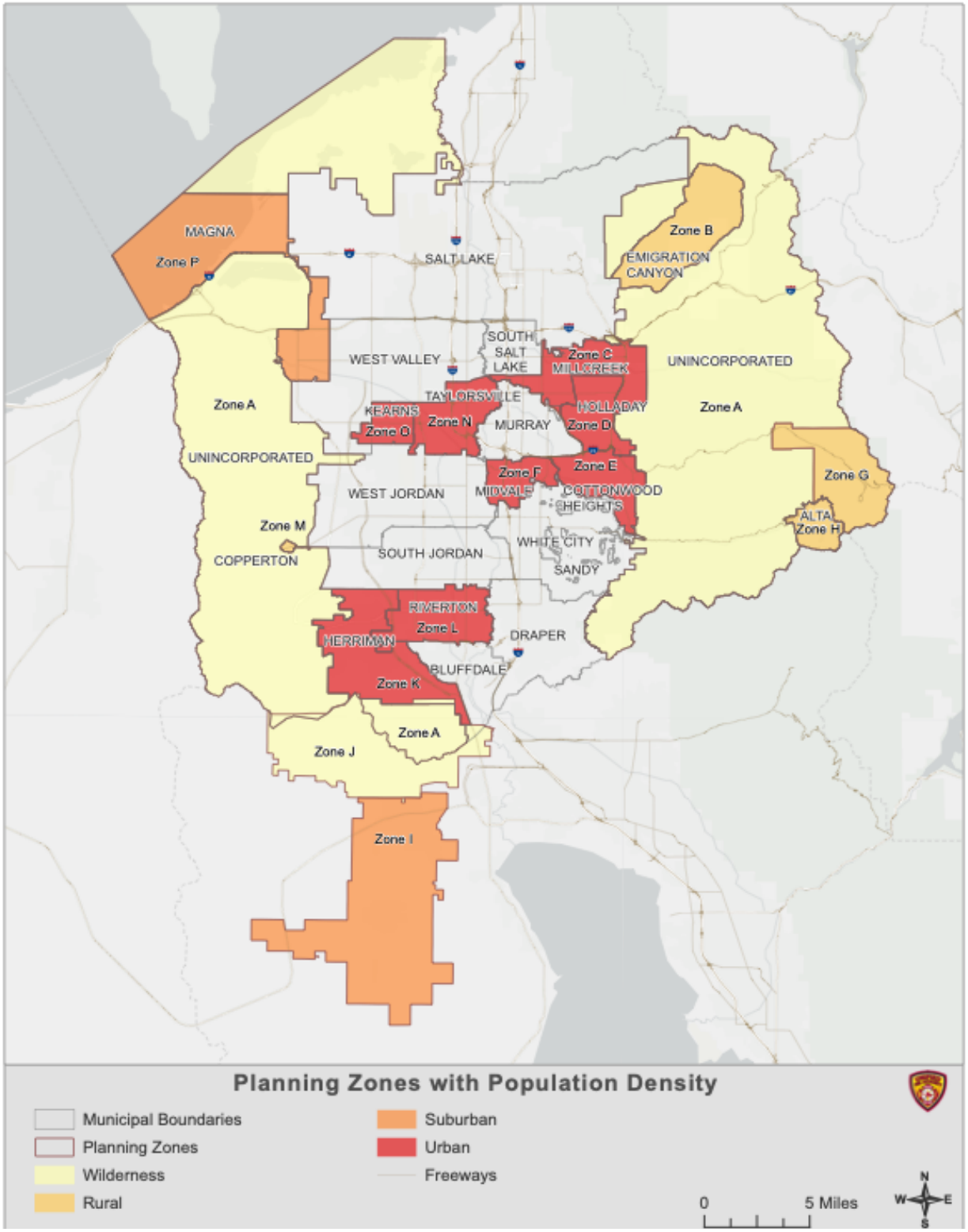
- Dense Urban – An incorporated or unincorporated area describing dense, fully developed areas, with high density of permanent or transient population. Urban areas are identified by maintaining a density of greater than 3,000 persons per square mile and a population of over 200,000.
    - UFA does not have any PZs that currently fit into this category strictly based off the overall population measures.
- Urban – An incorporated or unincorporated area with a population of 30,000 to 199,999 and/or a population density over 1,000 people per square mile but less than 2,999.
    - Cottonwood Heights, Herriman, Holladay, Kearns, Midvale, Millcreek, Riverton, and Taylorsville fit into this category.
- Suburban – An incorporated or unincorporated area describing mixed occupancy areas, with average to high density populations, typically fringed around urban areas. Suburban areas are identified by maintaining a population density of 500-1,000 persons per square mile and/or a population of 20,000 to 29,999.
    - The City of Eagle Mountain and Magna Metro Township fit into this category

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Rural

- Rural – An incorporated or unincorporated area with a population of less than 19,999 people and/or a population density of less than 500 persons per square mile.
    - Town of Alta, Town of Brighton, Copperton Metro Township, and Emigration Township fit into this category
- Wilderness – Any rural area not readily accessible by publicly or privately maintained roads and remote from any significant development and with greatly delayed response times.
    - Camp Williams and Unincorporated Salt Lake County fit into this category

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Map 42 - Planning Zones with Population Density

The following chart provides an overview of projected growth in both Salt Lake County and within UFA. The projection holds that currently about 34% of the population of Salt Lake County is covered by UFA and this projection holds. It is important to note that the majority of growth within Salt Lake County is anticipated to occur in the Southwest pocket of the county and so while the projections are only separated by counties within the state, it is anticipated that the rate of growth will actually occur primarily within UFA areas. Additionally, the tally also has Eagle Mountain added to the top but outside of the Salt Lake County total, as Eagle Mountain is located in Utah County.

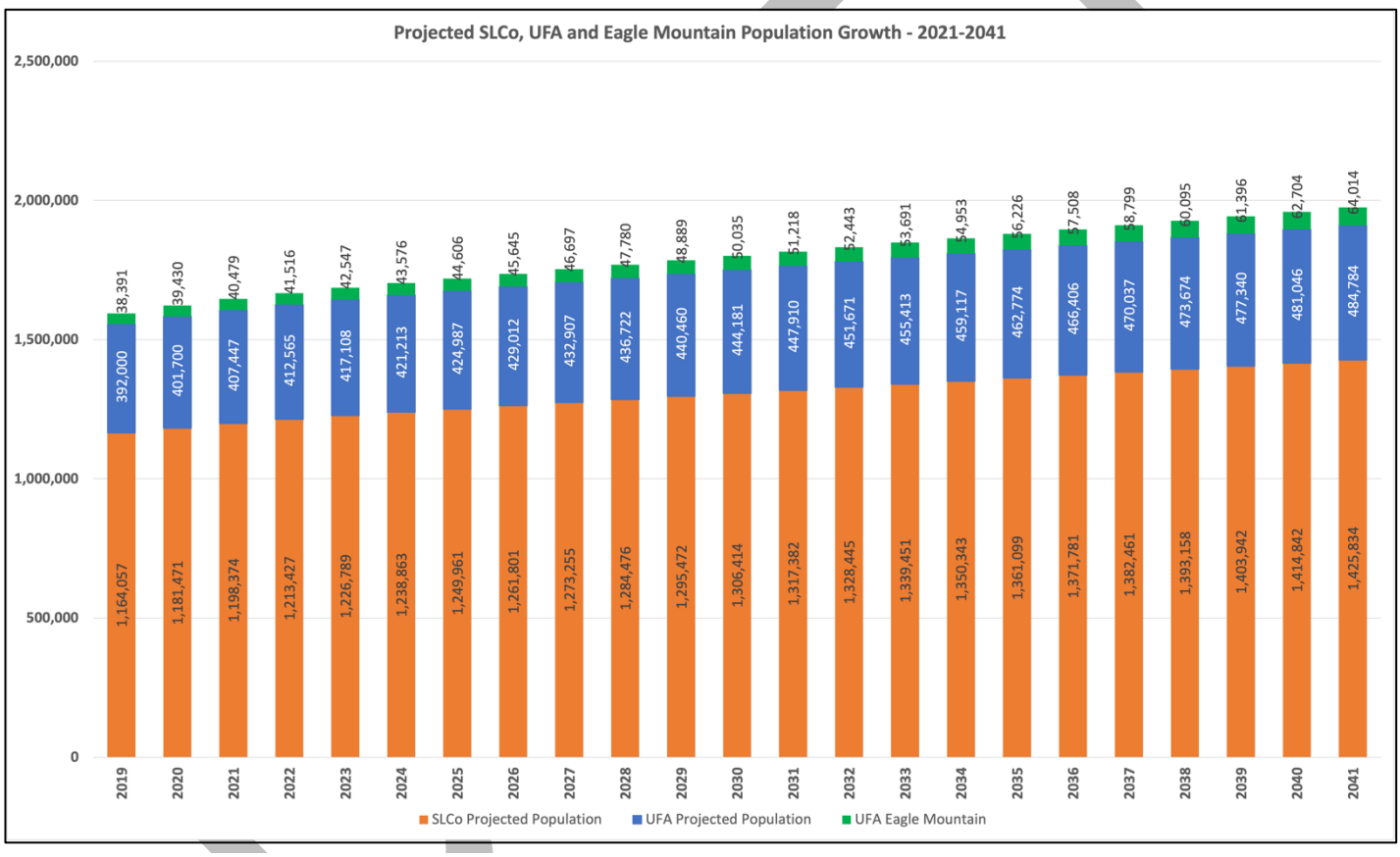
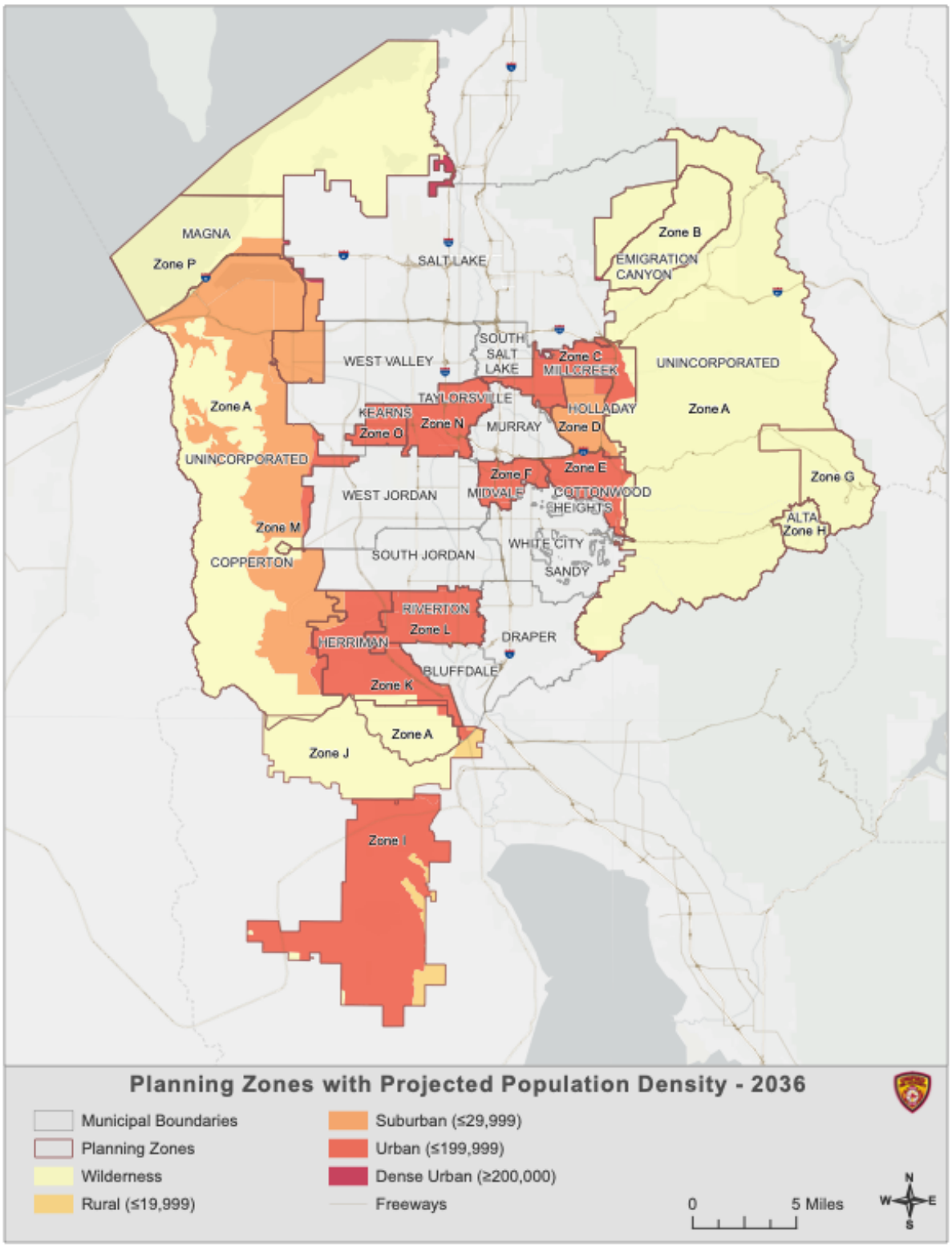


Chart 3 - Projected Growth 2021-2041



Map 43 - Planning Zones with 15-year Projected Population

The following table shows the breakdown of population by municipality planning zone and the density per square mile.

Planning Zone	Population	Population Percentage	Square Miles	Population Density per Square Mile	Classification
Town of Alta	228	0.05%	4.1	56	Rural
Town of Brighton	220	0.05%	16	14	Rural
Camp Williams	Temporary (Military)	N/A	47	N/A	Wilderness
Copperton Metro Township	835	0.19%	0.31	45	Rural
City of Cottonwood Heights	33,843	7.86%	9.23	3,667	Urban
Eagle Mountain City	38,391	8.92%	50.43	761	Suburban
Emigration Township	1,592	0.37%	18.98	84	Rural
Herriman City	51,438	11.92%	21.63	2,378	Urban
Holladay City	30,325	7.04%	8.5	3,568	Urban
Kearns Metro Township	36,330	8.44%	4.63	7,847	Urban
Magna Metro Township	26,949	6.26%	37.48	719	Suburban
Midvale City	34,124	7.92%	5.92	5,764	Urban
City of Millcreek	61,450	14.27%	12.77	4,812	Urban
Riverton City	44,440	10.32%	12.58	3,533	Urban
City of Taylorsville	59,805	13.89%	10.85	5,512	Urban
Unincorporated Salt Lake County	10,815	2.51%	390.59	28	Wilderness

Table 19 - UFA Population Information

Incidents vs Responses

Any given incident will typically involve multiple responses from one or more agencies. For instance, when a house fire is reported in UFA, the initial dispatch includes three engines, one truck, a medic ambulance and a Battalion Chief. This is a total of six responding vehicles or unit responses. Each dispatched unit counts as one response, so any given incident may involve several responses, which may be UFA units or automatic/mutual aid units. The table below shows the number of incidents within UFA's running districts over the last three calendar years.

	CY 2020	CY 2019	CY 2018
Fire Suppression	995	745	850
EMS	20,293	18,942	19,558
Hazardous Materials	787	619	541
Service Calls	1,328	1,512	1,226
Good Intent	2,034	1,713	919
False Calls	1,596	1,723	1,535
Other (Misc., Flood, Overpressure)	77	57	66
Total	27,110	25,311	24,695

Table 20 - UFA Incident History 2018-2020

Incidents per Capita for Each Planning Zone – 2020

Planning Zone	Population	Calls in 2020	Calls per Capita
A – Unincorporated Salt Lake County	10,815	705	0.065
B – Emigration Township	1,592	84	0.053
C – City of Millcreek	61,450	4,395	0.072
D – Holladay City	30,325	1,896	0.063
E – City of Cottonwood Heights	33,843	2,172	0.072
F – Midvale City	34,124	3,327	0.097
G – Town of Brighton	220	208	0.945
H – Town of Alta	379	231	0.609
I – Eagle Mountain City	38,391	1,103	0.029
J – Camp Williams	Temporary (Military)	9	N/A
K – Herriman City	51,438	1,390	0.027
L – Riverton City	44,440	1,588	0.036
M – Copperton Metro Township	835	75	0.090
N – City of Taylorsville	59,805	4,145	0.069
O – Kearns Metro Township	36,330	2,457	0.068
P – Magna Metro Township	26,949	1,887	0.070
Mutual/Automatic Aid - 2020		1,438	N/A

Table 21 - Calls per Capita, 2020

Projected Incident Growth

Using an exponential growth projection model and based off the last five years of data (2015-2020), the chart below shows the current and anticipated trends out to 2031. With an exponential growth rate (and all items remaining the same), the highest projected

incidents in respective planning zones will be Taylorsville, with around 5,400 calls per year in 2031, followed by Millcreek, Eagle Mountain, and Herriman. This projection also identifies that UFA will increase their internal calls (excluding automatic and mutual aid) to nearly 38,000 calls by 2031.

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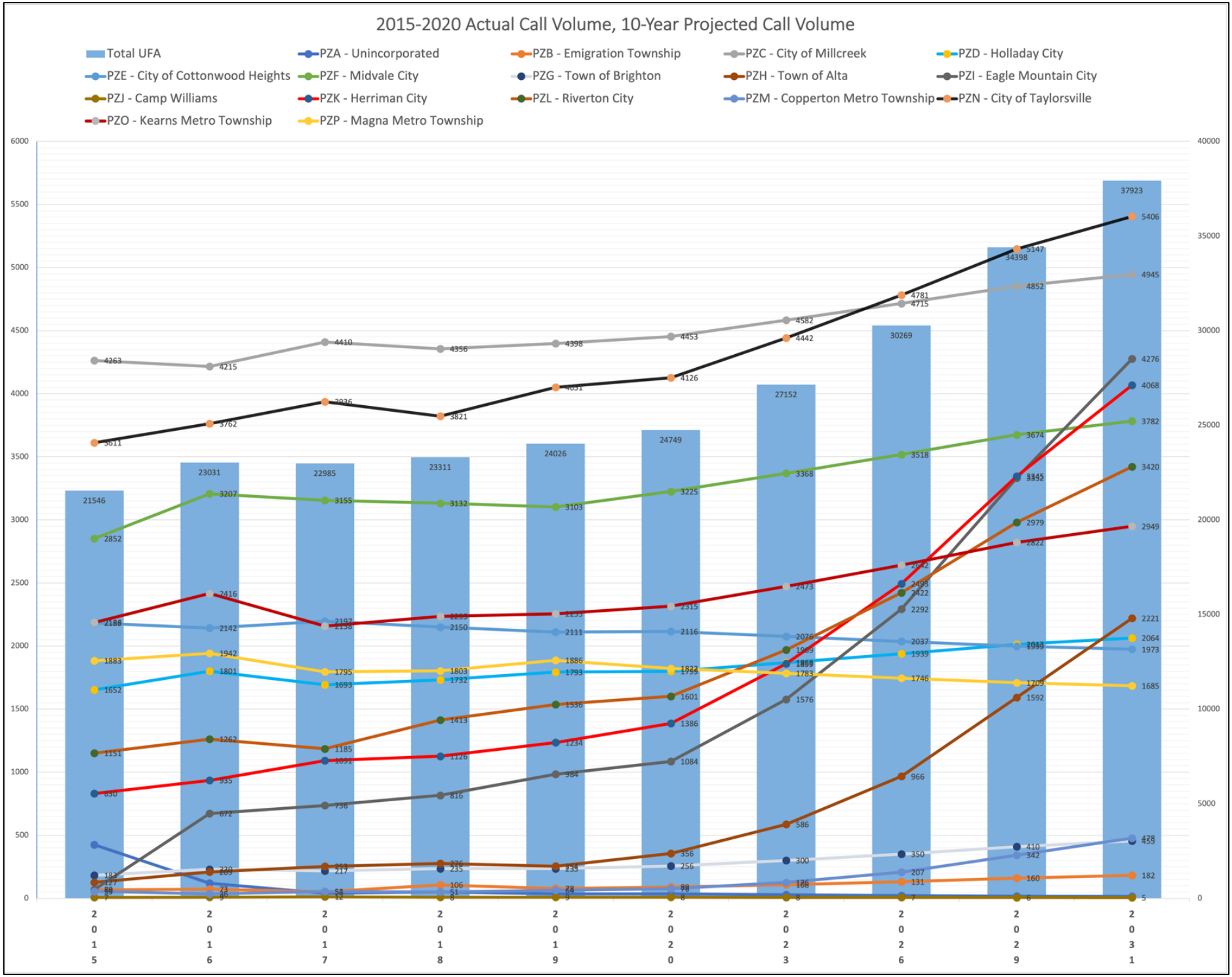


Chart 4 - Projected Incident Growth 2021-2031

To assist with projected growth, call volume, and station placement, UFA has identified and is utilizing software named Darkhorse that can identify and accurately project out the best placement of fire stations using projected community plans, road placement, population growth, etc. to help identify four- and eight-minute travel times and the best placement for future station development.

Incidents by Time of Day & Day of Week

A review of incidents by time of day illustrates when the greatest service delivery demand occurs. The following chart shows the times of greatest demand for CY 2020, with 07:00 AM being the start of the increase and 07:00 PM being the start of the decline.

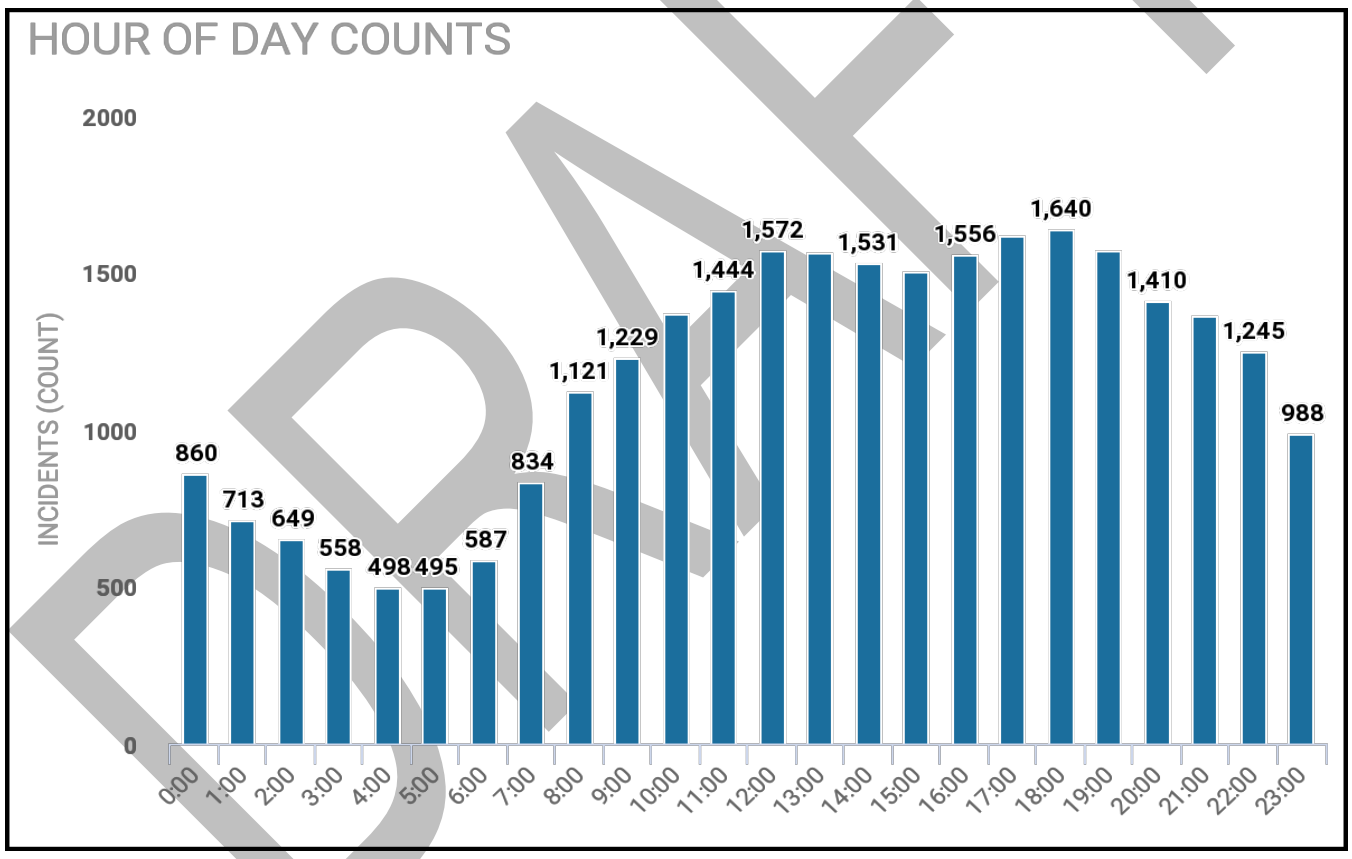


Chart 5 - CY 2020 UFA Incidents by Time of Day

The chart below illustrates the call volume by the day of the week. The days with the highest number of calls are Thursdays, followed by Saturdays, Wednesdays, and Tuesdays, respectively.

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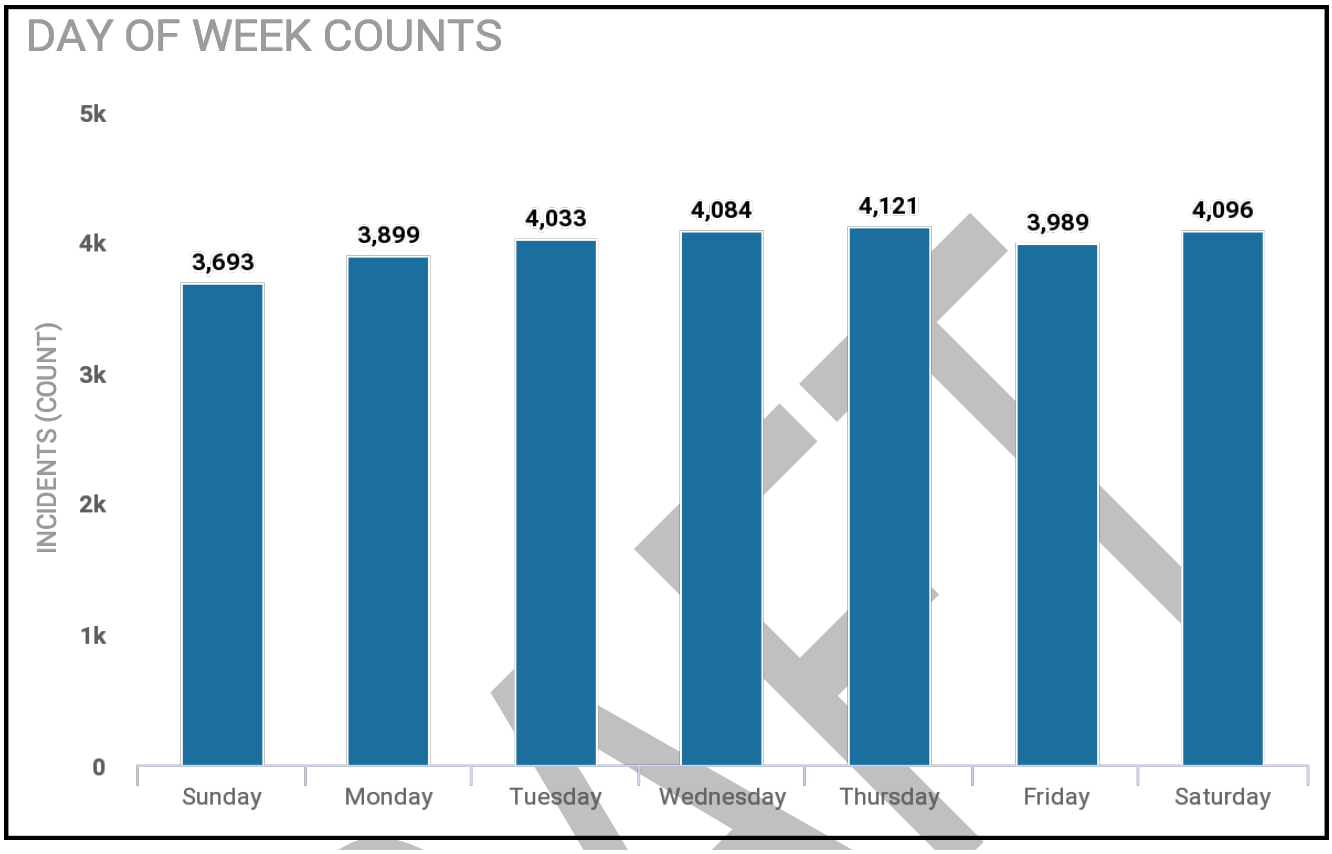


Chart 6 - Call Volume by Day of Week

Planning Zones Values at Risk

Planning Zone	Values at Risk	Values at Risk Per Capita
Town of Alta	$314,448,800	$829,680.21
Town of Brighton	$440,041,048	$2,000,186.58
Camp Williams	Unknown	N/A
Copperton Metro Township	$35,109,180	$42,046.92
City of Cottonwood Heights	$4,167,290,410	$123,135.96
Eagle Mountain City	$2,280,157,637	$59,393.03
Emigration Township	$276,092,678	$173,425.05
Herriman City	$2,902,806,086	$56,433.11
Holladay City	$3,905,294,360	$128,781.35
Kearns Metro Township	$1,453,476,363	$40,007.61
Magna Metro Township	$1,273,226,468	$47,245.78
Midvale City	$2,513,800,998	$73,666.66
City of Millcreek	$5,970,828,273	$97,165.64
Riverton City	$3,587,843,985	$80,734.56
City of Taylorsville	$3,684,548,074	$61,609.37
Unincorporated Salt Lake County	$3,973,715,545	$367,426.31
Total	$37,063,092,803	$86,006.03

Table 22 - UFA Values at Risk

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Incidents by Type – Emergent and Non-Emergent

Incidents per Type	CY 2020	CY 2019	CY 2018	Total
Fire Suppression	995	745	850	2,590
EMS	20,295	18,942	19,558	58,793
HazMat	787	619	541	1,947
Technical Rescue	23	32	23	55
Swiftwater Rescue	2	1	3	6
Wildland	388	271	308	967

Table 23 - Emergent and Non-Emergent Incidents by Type

Fire Suppression Incident Types

The following table illustrates the various fire suppression incident types based on NFIRS data following the close out of reports following an incident. There are eight basic categories of fire dispatches that UFA utilizes in a computer aided dispatch (DISPATCH). Rubbish fire, typically a dumpster fire; natural vegetation fire, which can be a small or large outside fire, normally associated with wildland incidents; structure fire; fire in mobile property such as a fixed structure; crop fire, normally a controlled burn; vehicle fire; special outside fire; and other.

NFIRS Description	Incident Count	% of Incidents
Structure Fire	454	45.6%
Natural Vegetation Fire	195	19.6%
Outside Rubbish Fire	155	15.6%
Mobile Property (Vehicle) Fire	93	9.35%
Special Outside Fire	39	3.92%
Fire, Other	37	3.72%
Fire in Mobile Property Used as a Fixed Structure	20	2.01%
Cultivated Vegetation, Crop Fire	2	0.002%
Total	995	100%

Table 24 - Fire Suppression Incident Types

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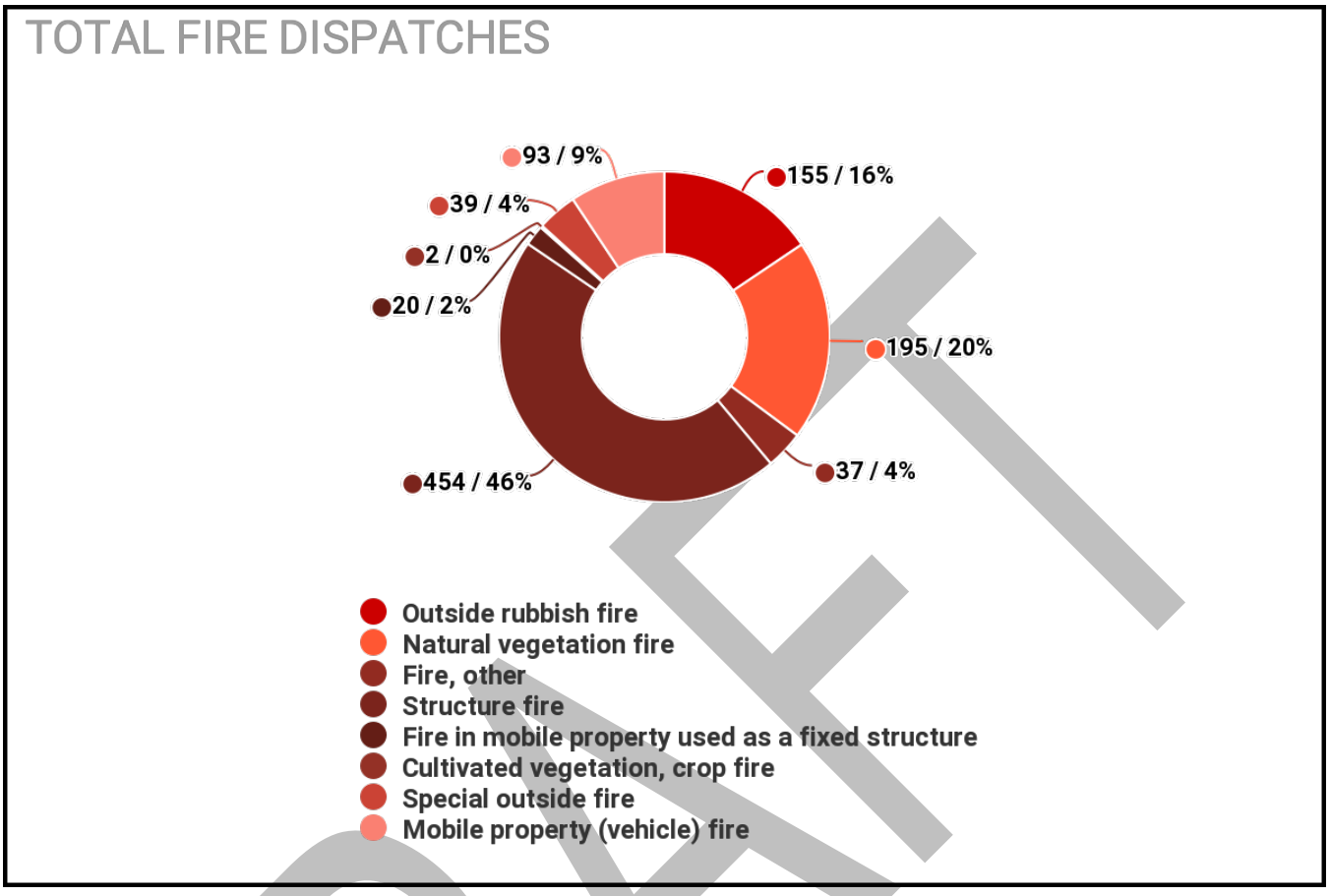


Chart 7 - Total UFA Fire Dispatches 2020

EMS Transports and Non-Transports

The table below shows the breakdown of EMS calls that UFA responded on for the last three calendar years. In October of 2020, UFA and the surrounding Salt Lake Valley agencies moved to an automatic vehicle locator (AVL) dispatch, sending the nearest BLS based on AVL and the nearest jurisdictional unit based on AVL to any EMS call. Jurisdictional unit means that whichever municipal jurisdiction the EMS call originates from, that agency's ALS transport unit will be sent even though it may not be the absolute closest unit by AVL. The nearest BLS unit will always be dispatched as per AVL recommendations and the nearest ALS unit will be dispatched if it is determined to be a priority 1 call regardless of jurisdiction.

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	CY 2020	CY 2019	CY 2018
ALS Transports	7,763	8,065	7,842
BLS Transports	11,496	10,087	9,687
Scene Release	1,314	1,271	3,666
Public Assistance	189	155	163
EMS Total Calls	20,573	19,423	21,195
Note: There may be a slight difference if you were to add all calls. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those duplicates do not carry across to the total calls.			

Table 25 - EMS Call Volume by ALS/BLS

EMS Incident Types

The dispatching system within VECC utilizes a coding system that falls alphabetically from "1 – Abdominal Pain" to "32 – Unknown Problem/Man Down". With the recent issues with H1N1 and COVID-19, an additional code was created, with "36 – Fever/Flu-Like Symptoms". With the additional coordination between Salt Lake City Dispatch Center and VECC, currently anything that does not fit within the 1-36 dispatch calls gets coded as a "38 – Send Protocol" so as to not delay dispatching units. Additionally, from the initial details, it gets coded as a Basic Life Support (BLS) call or an Advanced Life Support (ALS) call and they are differentiated upon dispatch as Alpha or Bravo for BLS and Charlie or Delta for ALS. Echo is usually an individual in full arrest.

EMS Calls by Response Type - 2020

Code	Type	Number	Code	Type	Number
1	Abdominal Pain	316	19	Heart Problems	243
2	Allergic Reaction	122	20	Heat/Cold Problems	26
3	Animal Bite	32	21	Hemorrhage	529
4	Assault	492	22	Industrial/Machinery Accident	24
5	Back Pain	157	23	Overdose/Poisoning	931
6	Breathing Problems	1,454	24	Pregnancy Problem	78
7	Burns	16	25	Psychiatric/Behavioral Problems	787
8	Carbon Monoxide Poisoning/Inhalation	40	26	Sick Patient	2,526
9	Cardiac Problem	149	27	Stabbing/Gun Shot Wound	85
10	Chest Pain	945	28	Stroke/CVA	476
11	Choking	145	29	Traffic Accident	1,814
12	Convulsions/Seizures	936	30	Traumatic Injury	514

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13	Diabetic Problem	402	31	Unconsciousness/Fainting	1,397
14	Drowning	10	32	Unknown Problem/Man Down	689
15	Electrocution	3	33	Interfacility	16
16	Eye Problem	15			
17	Falls	3,109	36	Fever/Flu-Like Symptoms	276
18	Headache	60	38	Send Protocol	427

Table 26 - 2020 EMS Call Type

Other Call Types

Heavy Rescue

UFA has two heavy rescue companies. 117 in Taylorsville is a dual-company station that takes turns shift-to-shift being the first up for any heavy rescue or technical rescue calls. 121 in Riverton is the second heavy rescue company within UFA. UFA heavy rescue companies respond on all technical rescue calls, entrapment calls, working fires (as our rapid intervention teams [RIT]), and extrication calls.

Unit	Staffing Level	Responses
HR 117	4 (Cross-Staffed)	255
HR 121	4 (Cross-Staffed)	67
Total		322

Table 27 - 2020 Heavy Rescue Calls

Hazardous Materials

UFA has two hazardous material (HazMat) companies. 120/124 in Riverton, and 126 in Midvale. Station 109 in Kearns housed a HazMat company until December of 2022 when the HazMat program was modified

Unit	Staffing Level	Responses
HM 109	4 (Cross-Staffed)	24
HM 124	4 (Cross-Staffed)	19
HM 126	4 (Cross-Staffed)	24
Total		67

Table 28 – 2020 Hazardous Material Calls

Wildland Urban Interface (WUI) Response

UFA has its own Wildland Division that is housed out of Station 120 in Riverton. UFA has a Wildland Division Chief, a Crew Supervisor, a twenty-one-person Type 1 Hotshot Handcrew (in trainee status as of 2022 WL season) — Salt Lake 1, an Initial Attack Crew,

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two four-person Type 3 Engines available nationally. UFA also houses a ten-person initial attack handcrew, a Fire Management Officer (FMO) and an Assistant FMO (AFMO) in — and is responsible for all fire suppression on — Camp Williams, a military institution that houses and trains the Utah National Guard.

Wildland Division Data – Camp Williams

	2020	2019	2018
Total Days in Status	212	157	Unknown
Fires on Camp Williams	5	7	Unknown
Total Acres Burned on Camp Williams	30	182	5
Fires off Camp Williams	12	7	Unknown
Personnel Hours Utilized in Mitigation Work	N/A	N/A	1,042

Table 29 - Camp Williams Fire Data

Wildland Division Data – Fuels Crew / Initial Attack Crew

	2020	2019	2018
Fires	10	9	N/A
Days Total on Fires	21	12	N/A
Days Total on Mitigation Projects	84	90	N/A
Personnel Hours Utilized	5,697	1,305	N/A

Table 30 - Fuels Crew / Initial Attack Crew Data

Wildland Division Data – E 301

	2020	2019	2018
Total Days in Status	178	152	Unknown
Fires	16	8	4
Days Total on Fires	104	36	38
Days Total on Mitigation Projects	25	19	Unknown

Table 31 - Engine 301 Data

Wildland Division Data – E 302

	2020	2019	2018
Total Days in Status	178	167	Unknown
Fires	16	7	18
Days Total on Fires	103	35	124
Days Total on Mitigation Projects	10	29	Unknown

Table 32 - Engine 302 Data

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Wildland Division Data – Salt Lake 1

	2020	2019	2018
Total Days in Status	164	167	Unknown
Fires	20	13	15
Days Total on Fires	105	79	112
Days on Fires in State	69	66	48
Days on Fires Out of State	36	13	64
Days Total on Mitigation Projects	9	32	Unknown

Table 33 - Salt Lake 1 Data

Wildland Incidents by Unit Response – 2020

Unit	Responses	Unit	Responses	Unit	Responses
BC11	11	**MA206**	2	**ME124**	9
BC12	14	**MA211**	1	**ME125**	24
BC13	23	**MA225**	1	**ME126**	18
E6102	2	**MA253**	7	**ME251**	34
E6106	10	**ME101**	16	**ML106**	6
E6111	9	**ME102**	10	**ML109**	22
E6112	8	**ME103**	20	**ML110**	15
E6115	3	**ME104**	12	**ML111**	13
E6116	4	**ME108**	6	**ML117**	16
E6118	13	**ME109**	5	**ML121**	11
E6123	6	**ME112**	13	**ML252**	6
E6125	7	**ME113**	2	**OPS1**	5
E6127	2	**ME113**	2	**PIO4**	1
E6251	1	**ME113**	2	**SQUAD1**	1
E6252	27	**ME115**	6	**WILD1**	7
EM1	1	**ME116**	8	**WILD2**	6
INV194	1	**ME117**	26	**WILD7**	2
MA101	1	**ME118**	20	**WILD9**	1
MA109	4	**ME119**	5	**WT111**	1
MA126	1	**ME123**	4	**WT123**	3

Note: These are those incidents within Central and VECC's DISPATCH. There are other incidents that wildland units may have been dispatched to within the NUIFC dispatch system or out-of-county responses

Table 34 - Wildland Incidents by Unit Response

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Responses by Unit

The table below illustrates responses by unit. This is based off dispatch information and only signifies dispatches, not necessarily that they arrived on scene, were cancelled, or part of a large, multi-unit response.

Unit	Responses
AL115	59
BC11	539
BC12	297
BC13	643
DC14	56
E6102	17
E6106	24
E6108	2
E6111	17
E6112	40
E6115	4
E6116	13
E6118	25
E6119	2
E6123	56
E6125	19
E6127	3
E6252	44
EMS1	1
EVENT4	1
EVENT7	1
HM109	33
HM124	50
HM126	50
HR117	228
HR121	62
HV117	27
HV121	5
INV192	2

Unit	Responses
MA101	2898
MA108	1
MA109	2375
MA110	1232
MA118	1464
MA120	959
MA126	1267
MA204	1086
MA206	1807
MA210	891
MA211	1635
MA217	1422
MA218	1084
MA220	2
MA221	1320
MA223	481
MA225	457
MA226	1553
MA251	182
MA252	176
MA253	604
ME101	2841
ME102	1108
ME103	844
ME104	1896
ME108	235
ME109	340
ME112	1130
ME113	213

Unit	Responses
ME115	122
ME116	941
ME117	1398
ME118	1915
ME119	109
ME123	737
ME124	983
ME125	2210
ME126	1910
ME251	399
ML106	1276
ML109	2214
ML110	1714
ML111	1033
ML117	1448
ML121	1300
ML252	718
OPS1	27
PIO2	2
PIO3	2
PIO4	9
SAFE1	4
WILD1	6
WILD2	6
WILD4	1
WILD9	1
WT123	7

Key					
AL	Air & Light	**BC**	Battalion Chief	**DC**	District Chief (No Longer Utilized)
E	Engine	**EMS**	EMS Support Staff	**Event**	Event Ambulances
HM	HazMat	**HR/HV**	Heavy Rescue	**INV**	Investigator
MA	Medic Ambulance	**ME**	Medic Engine	**ML**	Medic Ladder
OPS	Operations Chief	**PIO**	Public Information Officer	**WT**	Water Tender
SAFE	Safety Officer	**WILD**	Wildland Duty Officer		

Table 35 - UFA Unit Responses in CY2020

Occupancy Types in UFA Planning Zones

The following table has all the occupancy types identified within UFA areas according to the risk matrix. Each planning zone has a breakdown specific to those areas.

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	236	20	98	25	379
Commercial/Industrial	93	81	163	37	374
Educational	90	3	43	13	149
Government	51	2	6	1	60
Healthcare	6	5	14	1	26
Hazardous	Unknown	Unknown	Unknown	Unknown	561
Storage	5	3	11	1	20
Residential – Single Family	27,045	46,201	17,011	2,448	92,705
Residential – Multi Unit	1,524	1,672	567	78	3,841
High Rise	0	10	6	17	33
Total	29,050	47,997	17,919	2,621	98,148

Table 36 - Occupancy Types in UFA Planning Zones

Building Size / Considerations

For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Unified Fire Authority

Community Risk Assessment



Part 2 – UFA Community Risk Assessments

Unified Fire Authority

UFA has twenty-four fire operational stations—with two of them being utilized for different UFA divisions, a headquarters building, training grounds with a training tower and classrooms, and a building housing our Special Enforcement Division—within the 651 square miles serving a population of 451,035 and responded to 31,226 calls for service in 2020.

Planning Zone	Population	Square Miles	Population Density per Sq Mile
UFA	451,035	651	693

Unified Fire Authority's response area has increased its residents served from 358,057 in 2010 to 451,035 in 2020, showing an increase of 20.61% over a ten-year timeframe. This includes the additions of Midvale City in 2011, Eagle Mountain City in 2013, and Draper City leaving in 2017. Providing an exponential growth pattern and if all things remain equal, chart 9 demonstrates that UFA's residents served could grow to 648,540 by the year 2040.

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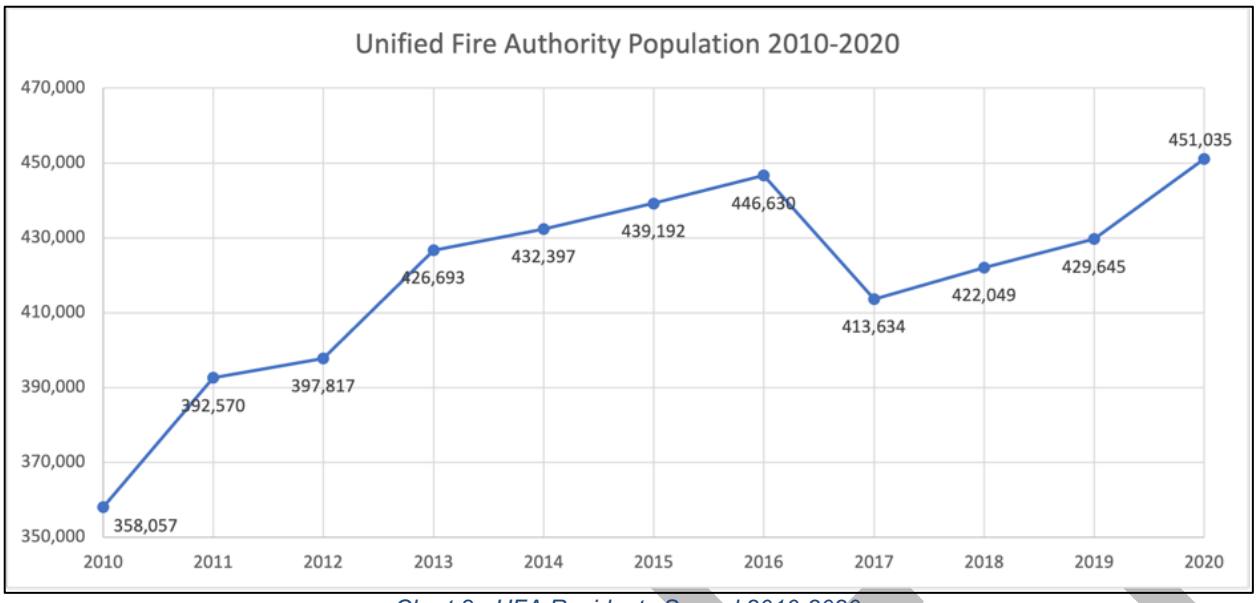


Chart 8 - UFA Residents Served 2010-2020

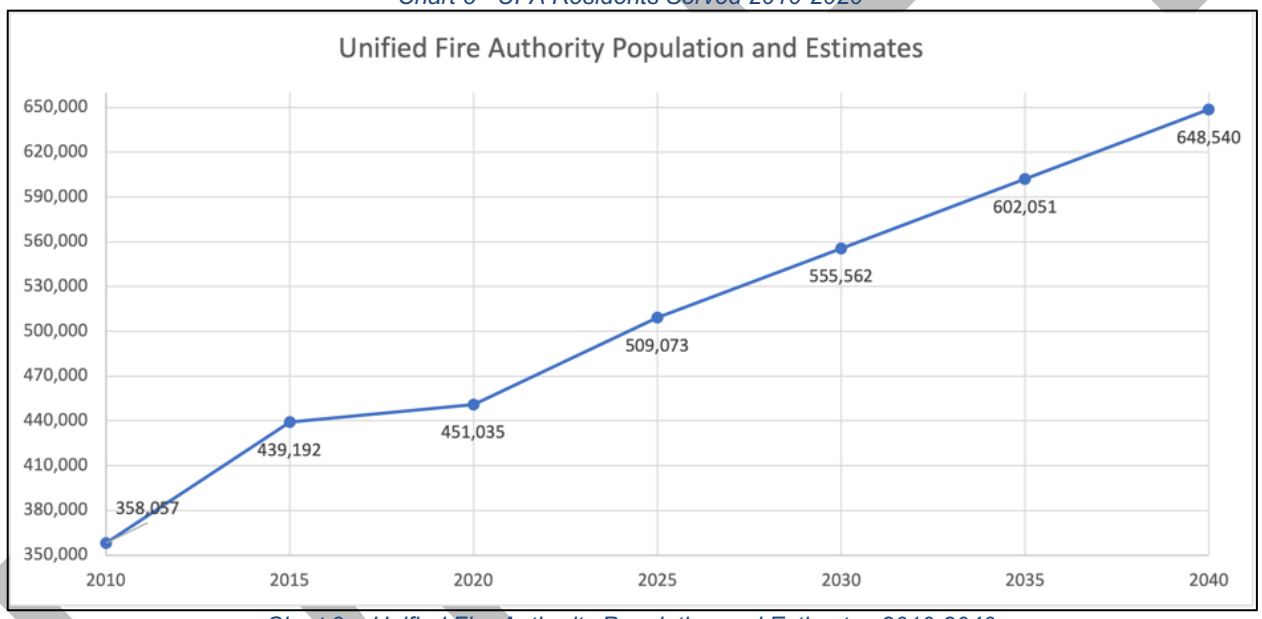


Chart 9 – Unified Fire Authority Population and Estimates 2010-2040

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Unified Fire Authority Station Information

Station	Apparatus	Minimum Staffing	Address	Specialty
Town of Alta				
Station 113	Medic Engine 113 (Type 1/3) Medic Ambulance 113	3 Cross-Staffed	9523 Bypass Road, Snowbird	
Town of Brighton				
Station 108	Medic Engine 108 (Type 1/3) Medic Ambulance 108 Engine 6108	3 Cross-Staffed Cross-Staffed	8036 Old Prospect Ave, Brighton	WUI Response
Copperton Metro Township				
Station 115	Medic Engine 115 (Type 1) Engine 6115 (Type 6) Air & Light 115	3 Cross-Staffed Cross-Staffed	8495 W State Highway, Copperton	WUI Response Air & Light
City of Cottonwood Heights				
Station 110	Medic Ladder 110 (Type 1) Medic Ambulance 110	4 2	1790 Fort Union Blvd, Cottonwood Heights	
Station 116	Medic Engine 116 (Type 1) Medic Ambulance 116 Engine 6116 (Type 6)	4 Cross-Staffed Cross-Staffed	8303 Wasatch Blvd, Cottonwood Heights	WUI Response
Eagle Mountain City				
Station 251	Medic Engine 251 (Type 1/3) Medic Ambulance 251	4 Cross-Staffed	1680 Heritage Drive, Eagle Mountain	WUI Response
Station 252	Medic Ladder 252 (Type 1) Medic Ambulance 253 Engine 6252 (Type 6)	4 2 (Peak Load) Cross-Staffed	3785 Pony Express Parkway, Eagle Mountain	WUI Response
Emigration Township				
Station 119	Medic Engine 119 (Type 1/3) Engine 6119 (Type 6)	3 Cross-Staffed	5025 Emigration Canyon Rd, Salt Lake City	WUI Response
Herriman City				
Station 103	Medic Engine 103 (Type 1/3) WLDO Supervisor Truck Event Ambulance	4 Cross-Staffed 2 - Events Only	5916 W 13100 S, Herriman	Wildland Duty Officer & WUI
Station 123	Medic Engine 123 (Type 1) Medic Ambulance 223 Engine 6123 (Type 6) WTT 123 (Type 1) Water Rescue 123	4 2 (Peak Load) Cross-Staffed Cross-Staffed Cross-Staffed	4850 Patriot Ridge Drive, Herriman	Water Rescue WUI Response
City of Holladay				
Station 104	Medic Engine 104 (Type 1) Medic Ambulance	4 2 (Peak Load)	2210 E Murray-Holladay Road, Holladay	
Kearns Metro Township				
Station 109	Medic Ladder 109 (Type 1) Medic Ambulance 109	4 2	4444 W 5415 S, Kearns	

Magna Metro Township				
Station 102	Medic Engine 102 (Type 1) Engine 6102 (Type 6)	4 Cross-Staffed	8609 W Magna Main Street, Magna	WUI Response
Station 111	Medic Ladder 111 (Type 1) Medic Ambulance 211 WTT 111 (Type 1) Engine 6111 (Type 6)	4 2 Cross-Staffed Cross-Staffed	8215 W 3500 S, Magna	WUI Response
Midvale City				
Station 125	Medic Engine 125 (Type 1)	4	7683 Holden Street, Midvale	
Station 126	Medic Engine 126 (Type 1) Medic Ambulance 126 Medic Ambulance 225 HazMat 126 Operations Chief	4 2 2 (Peak Load) Cross-Staffed 1	607 E 7200 S, Midvale	HazMat
Millcreek City				
Station 101	Medic Engine 101 (Type 1) Medic Ambulance 101 Battalion Chief 11	4 2 1	790 E 3900 S, Millcreek	
Station 106	Medic Ladder 106 (Type 1) Medic Ambulance 206 WTT 106 (Type 1) Engine 6106 (Type 6)	4 2 Cross-Staffed Cross-Staffed	1911 E 3300 S, Millcreek	WUI Response
Station 112	Medic Engine 112 (Type 1) Engine 6112	4 Cross-Staffed	3612 Jupiter Drive, Millcreek	WUI Response
Riverton City				
Station 120	Medic Ambulance 120 Wildland 1 WL Sup Truck 1 WL Sup Truck 2 WL Chase Truck 1 WL Chase Truck 2 SL1 (Type 6) Fuels Crew 1 (Type 6) Fuels Crew Carrier Crew Carrier 1 Crew Carrier 2 Engine 301 (Type 3) Engine 302 (Type 3)	2 1 1 (Seasonal) 1 (Seasonal) 2 (Seasonal) 2 (Seasonal) 4 (Seasonal) 4 (Seasonal) 8 (Seasonal) 10 (Seasonal) 10 (Seasonal) 4 (Seasonal) 4 (Seasonal)	13000 S 2700 W, Riverton	Wildland Wildland Division Headquarters
Station 121	Medic Ladder 121 (Type 1) Medic Ambulance 221 Heavy Rescue 121 Battalion Chief 12	4 2 Cross-Staffed 1	4146 W 12600 S, Riverton	Heavy Rescue
Station 124	Medic Engine 124 (Type 1) HazMat 124	4 Cross-Staffed	12662 S 1300 W, Riverton	HazMat
Taylorsville City				
Station 117	Medic Ladder 117 (Type 1) Medic Engine 117 (Type 1) Medic Ambulance 117 Heavy Rescue 117	4 4 2 (Peak Load) Cross-Staffed	4965 S Redwood Road, Taylorsville	Heavy Rescue
Station 118	Medic Engine 118 (Type 1) Medic Ambulance 118	4 2	5317 S 2700 W, Taylorsville	WUI Response

	Engine 6118 (Type 6) Battalion Chief 13	Cross-Staffed 1		
Contract, Division Headquarters or Administrative Buildings				
Station 107			6305 S 5600 W, West Jordan	Special Enforcement Division
Station 127	Wildland 2 Initial Attack Handcrew	1 10 (Seasonal)	17800 Camp Williams Road, Camp Williams	Wildland (Camp Williams)
Fire Training			3950 S 8000 W, Magna	Fire Training Division
Headquarters			3380 S 900 W, South Salt Lake	Headquarters
Logistics			6276 S Navigator Drive, West Jordan	Logistics Division
DAILY TOTALS	Full Time Personnel		108 (Hard Floor)	
	Part Time Personnel (24 Hour)		3	
	Part Time Personnel (Peak Load)		10 (Peak Load)	
	Medic Engines, Type 1		12	
	Medic Engines, Type 1/3		5	
	Engines, Type 6 (Cross-Staffed)		9	
	Medic Ladders, Quint		2	
	Medic Ladders TDA, Type 1		5	
	Medic Ambulances, Full Time		10	
	Medic Ambulances, Peak Load		5	

Surrounding UFA and Automatic/Mutual Aid Response Departments

UFA has contiguous borders, as well as mutual and automatic aid agreements with the following fire departments in the Salt Lake Valley:

- Bluffdale Fire Department
- Draper City Fire Department
- Murray City Fire Department
- Salt Lake City Fire Department
- Sandy City Fire Department
- South Jordan Fire Department
- South Salt Lake Fire Department
- West Jordan Fire Department
- West Valley Fire Department

UFA has contiguous borders, as well as mutual and automatic aid agreements with the following fire departments in Utah County:

- City of Saratoga Springs Fire Department

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Unified Fire Authority – Incidents by Dispatch Type

	CY 2020	CY 2019	CY 2018
Fire Suppression	995	745	850
EMS	20,293	18,942	19,558
Hazardous Materials	787	619	541
Service Calls	1,328	1,512	1,226
Good Intent	2,034	1,713	919
False Calls	1,596	1,723	1,535
Other (Misc., Flood, Overpressure)	77	57	66
Total	27,110	25,311	24,695

Table 37 – UFA Call Type

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

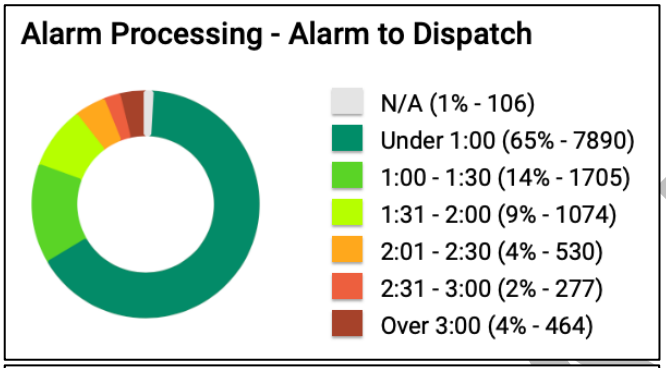
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

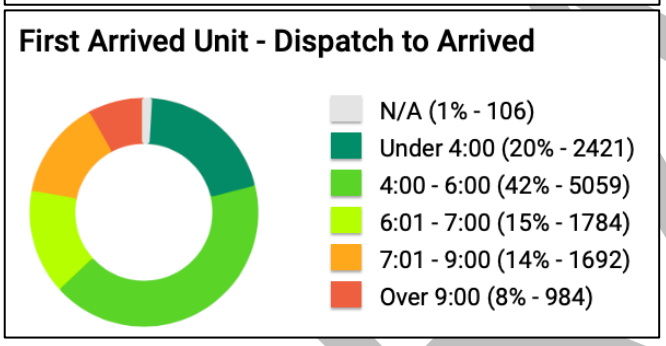
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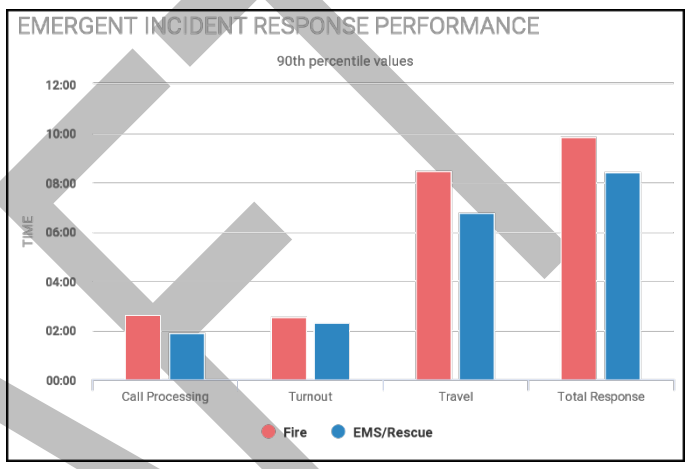
– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

Unified Fire Authority – 2020 Dispatch and Response Times





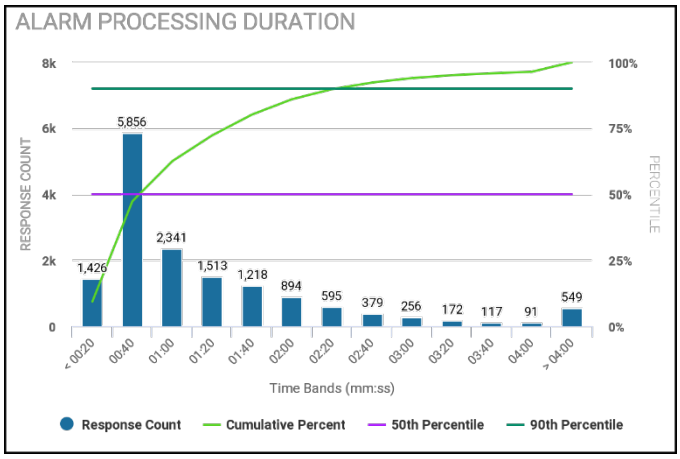


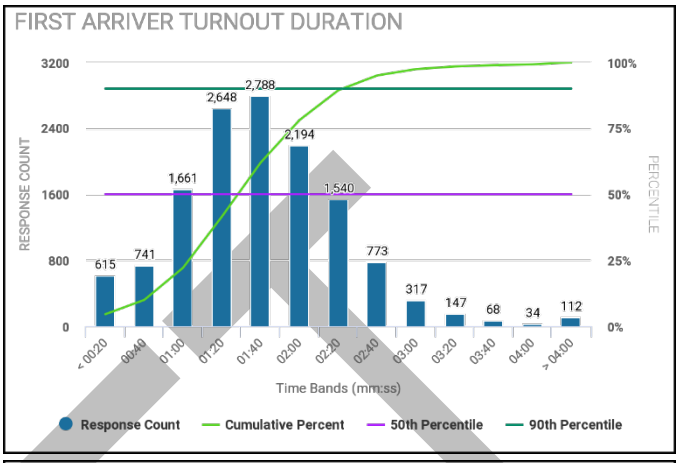
Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

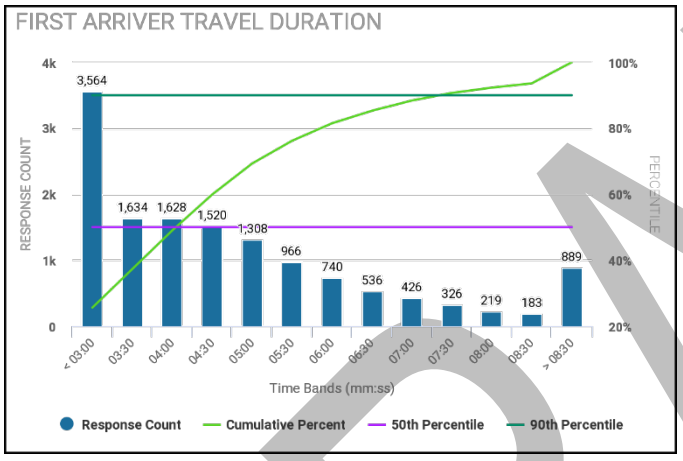
Table 38 – UFA 2018-2020 Response Times, 90th percentile values

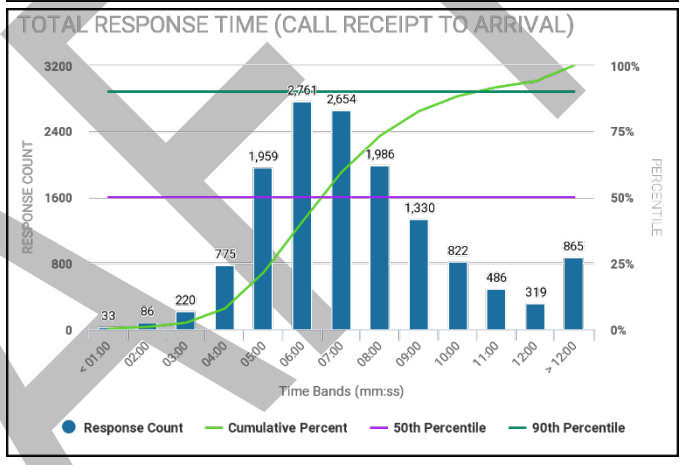
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Unified Fire Authority – 2020 Turnout and Travel Times









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The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within UFA's response area. The 90th percentile for alarm processing was 1:54. The 90th percentile turnout time was 2:34. The 90th percentile travel time was 7:02. The 90th percentile total response time was 9:55. This is further separated into fire and EMS response, as well as urban and rural response. For urban fire data, the 90th percentile for alarm processing was 2:16. The 90th percentile turnout time was 2:39. The 90th percentile travel time was 7:36. The 90th percentile total response time was 10:34. For rural fire data, the 90th percentile for alarm processing was 2:32. The 90th percentile turnout time was 3:05. The 90th percentile travel time was 15:08. The 90th percentile total response time was 19:09. For urban EMS data, the 90th percentile for alarm processing was 1:47. The 90th percentile turnout time was 2:32. The 90th percentile travel time was 6:29. The 90th percentile total response time was 9:18. For rural EMS data, the 90th percentile for alarm processing was 1:56. The 90th

percentile turnout time was 2:50. The 90th percentile travel time was 14:45. The 90th percentile total response time was 17:45. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

UFA – 2020 Incidents by Time of Day

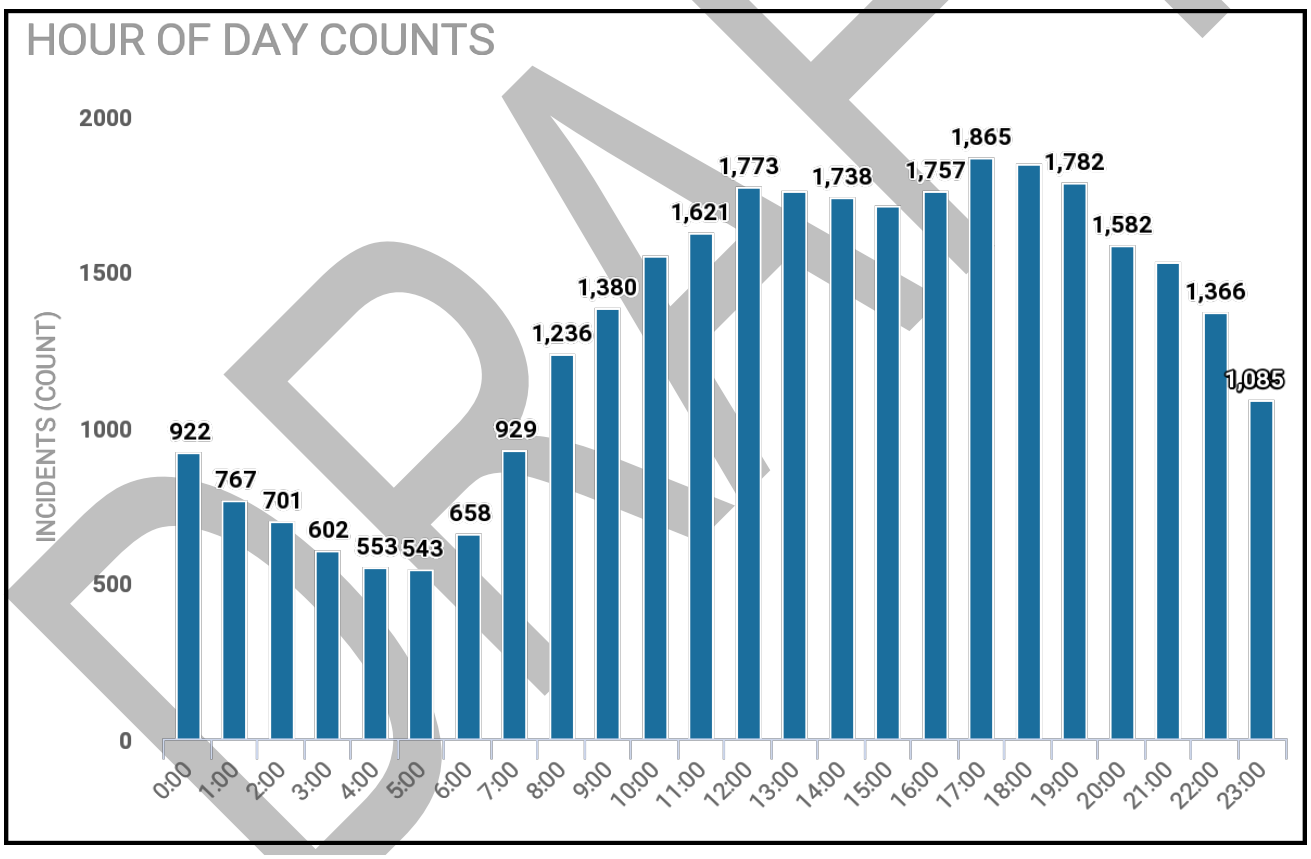


Chart 10 – UFA 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within UFA's response area for all service calls. This chart illustrates that the greatest demand for service delivery begins to increase at 6:00 AM and starts to decrease at 6:00 PM.

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Unified Fire Authority – 2020 Incidents by Day of Week

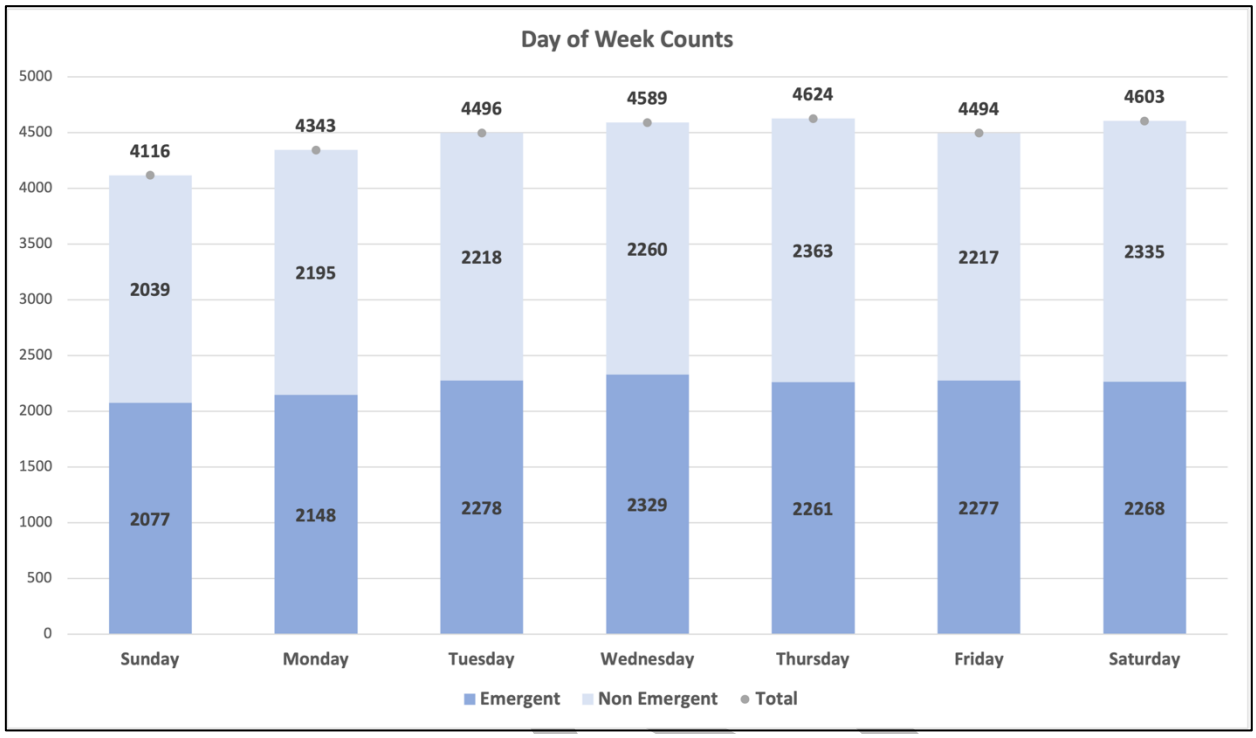


Chart 11 - UFA Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls beginning Monday. The peak volume for all calls in UFA's response areas occurs on Thursday.

Unified Fire Authority – EMS Calls

	CY 2020	CY 2019	CY 2018
ALS Transports	7,763	8,065	7,842
BLS Transports	11,496	10,087	9,687
Scene Release	1,314	1,271	3,666
Public Assistance	189	155	163
EMS Total Calls	20,573	19,423	21,195
Note: There may be a slight difference if you were to add all calls. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those duplicates do not carry across to the total calls.			

Table 39 - EMS Call Volume

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Unified Fire Authority – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	454	45.6%
Natural Vegetation Fire	195	19.6%
Outside Rubbish Fire	155	15.6%
Vehicle Fire	93	9.35%
Special Outside Fire	39	3.92%
Fire, Other	37	3.72%
Mobile Property Fire	20	2.01%
Cultivated Vegetation Fire	2	0.002%
Total	995	100%

Table 40 – UFA 2020 Incidents by Dispatch Type

Unified Fire Authority – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	236	20	98	25	379
Commercial/Industrial	93	81	163	37	374
Educational	90	3	43	13	149
Government	51	2	6	1	60
Healthcare	6	5	14	1	26
Hazardous	Unknown	Unknown	Unknown	Unknown	561*
Storage	5	3	11	1	20
Residential – Single Family	27,045	46,201	17,011	2,448	92,705
Residential – Multi Unit	1,524	1,672	567	78	3,841
High Rise	0	10	6	17	33
Total	29,050	47,997	17,919	2,621	98,148

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

Table 41 – UFA Building Occupancy and Risk Categories

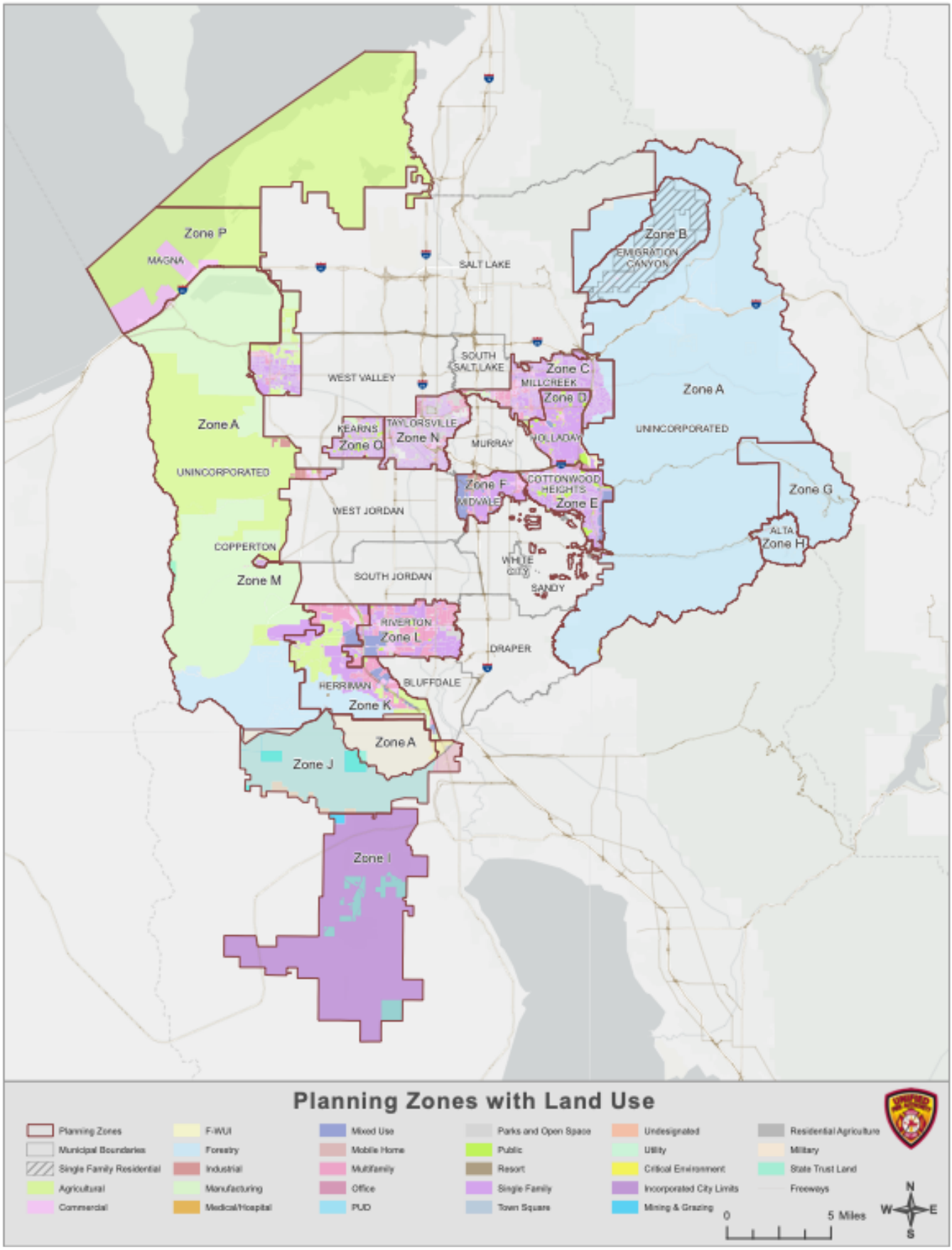
Building Size / Considerations

For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

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For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

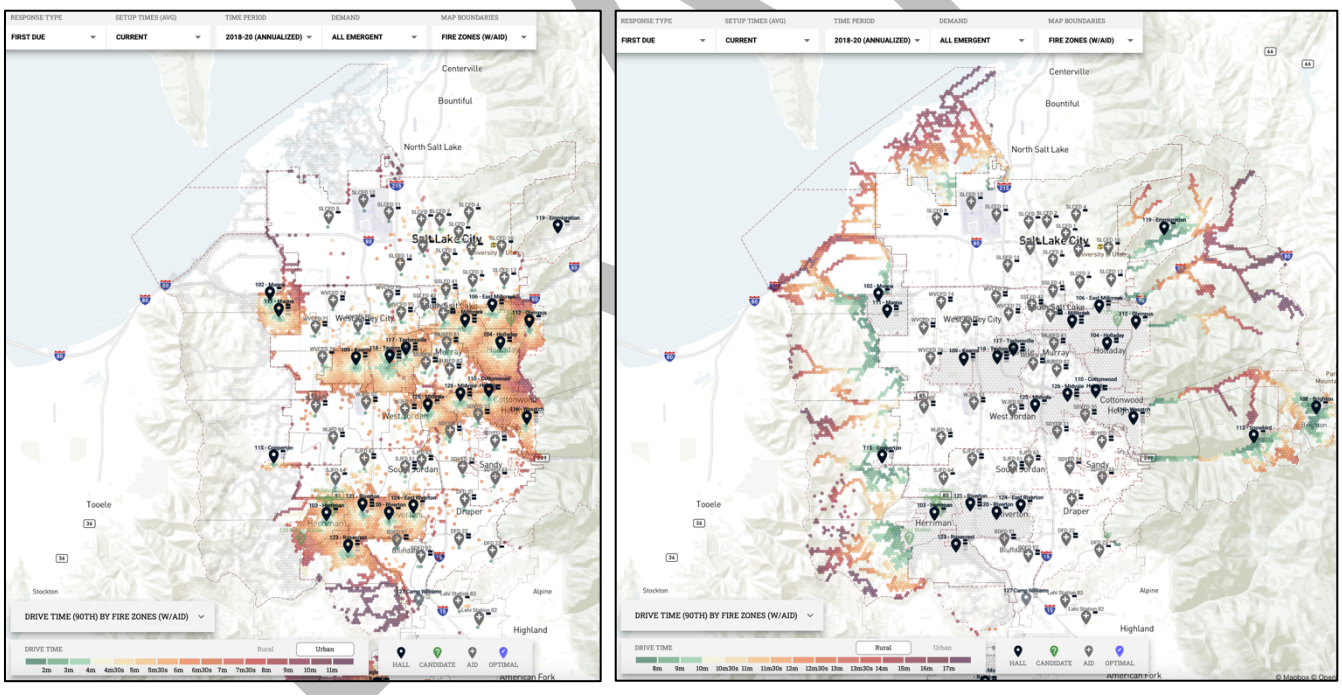
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Map 44 – UFA Areas with Land Use

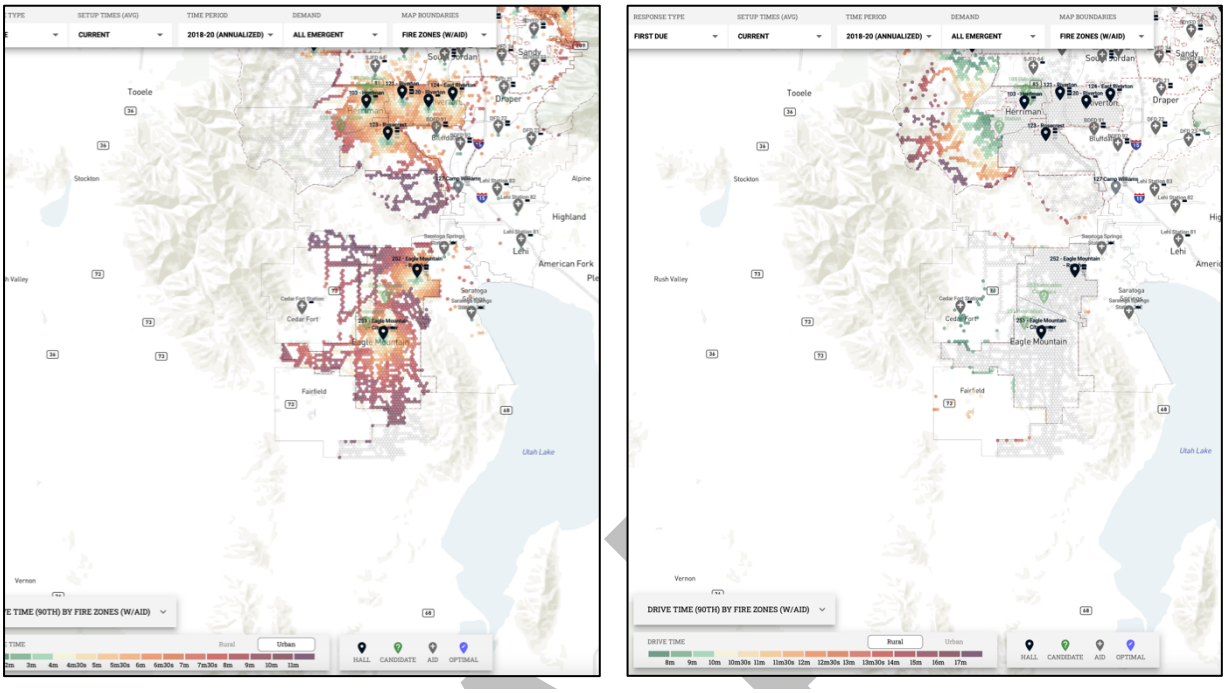
Unified Fire Authority – First Arriver Travel Times

The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times, with darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within UFA as a whole, the 90th percentile drive time is 8:31 (both urban and rural responses). There is a difference between travel times in urban areas and rural areas. In urban areas, the 90th percentile drive time for fire responses was 7:45 and 5:45 for EMS. In rural areas, the 90th percentile drive time for fire responses was 12:30 for fire responses and 10:30 for EMS responses.



Map 45 – UFA Salt Lake County Urban (Left) and Rural (Right) Response Times – All Aid

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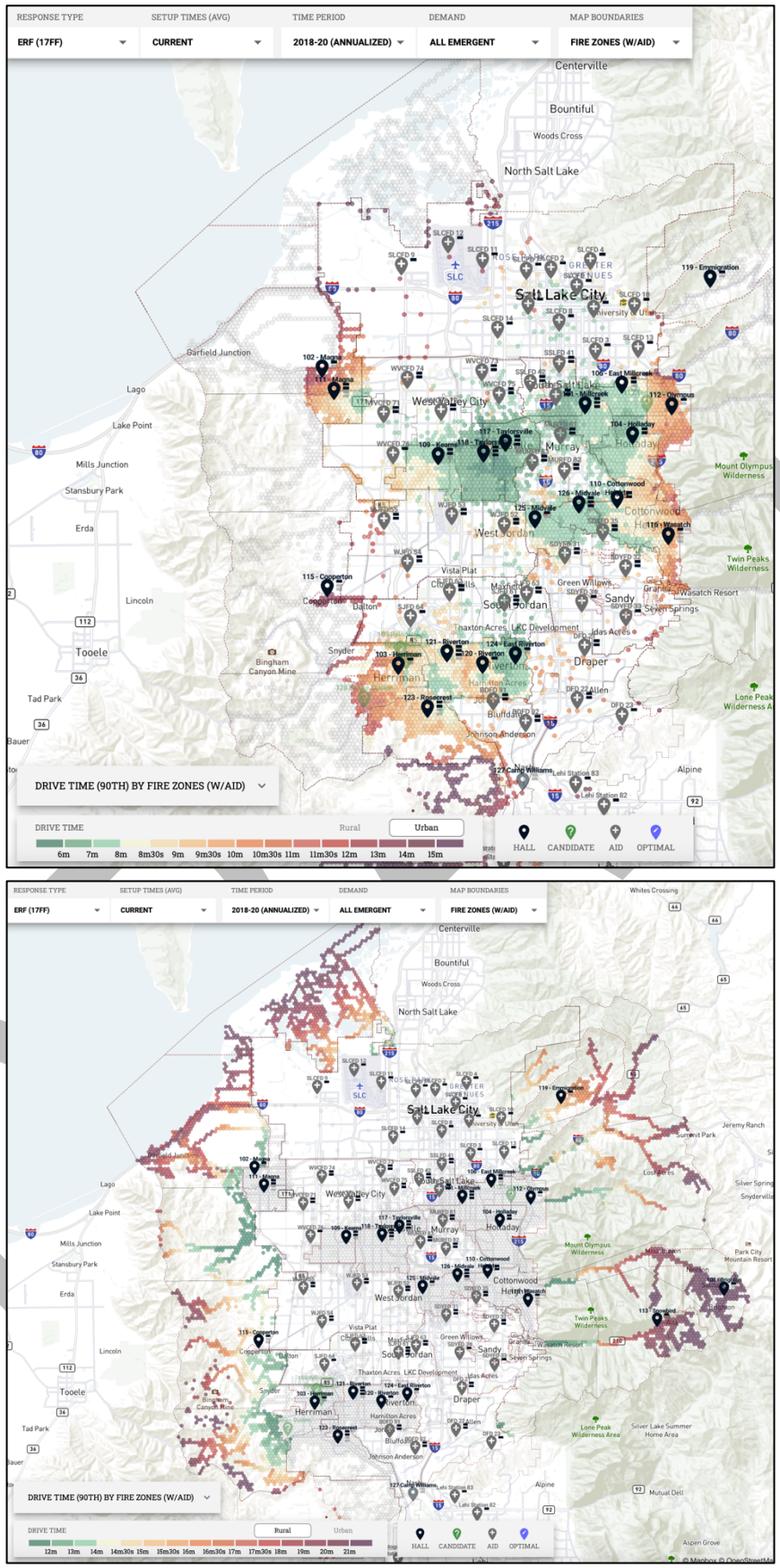


Map 46 – UFA Utah County Urban (Left) and Rural (Right) Response Times – All Aid

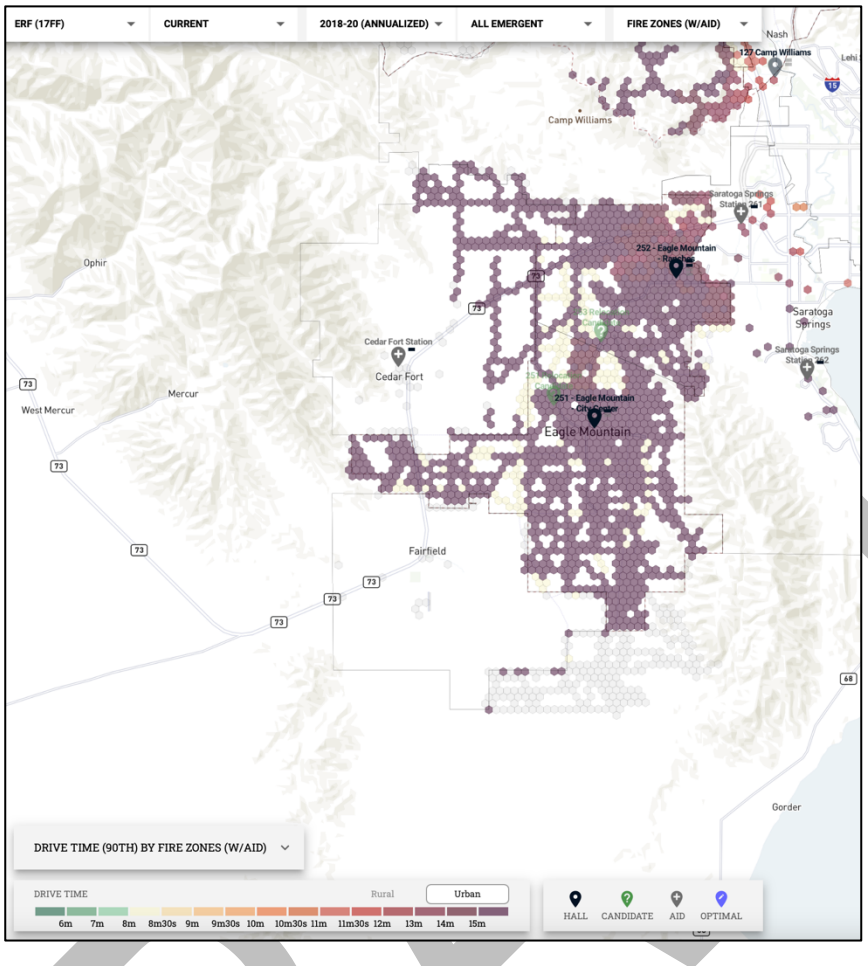
Unified Fire Authority – Residential Fire Effective Response Force (17 FF)

The following maps demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. This is one of the gaps that is currently identified as there is no effective mechanism to capture units beyond the first arriving unit.

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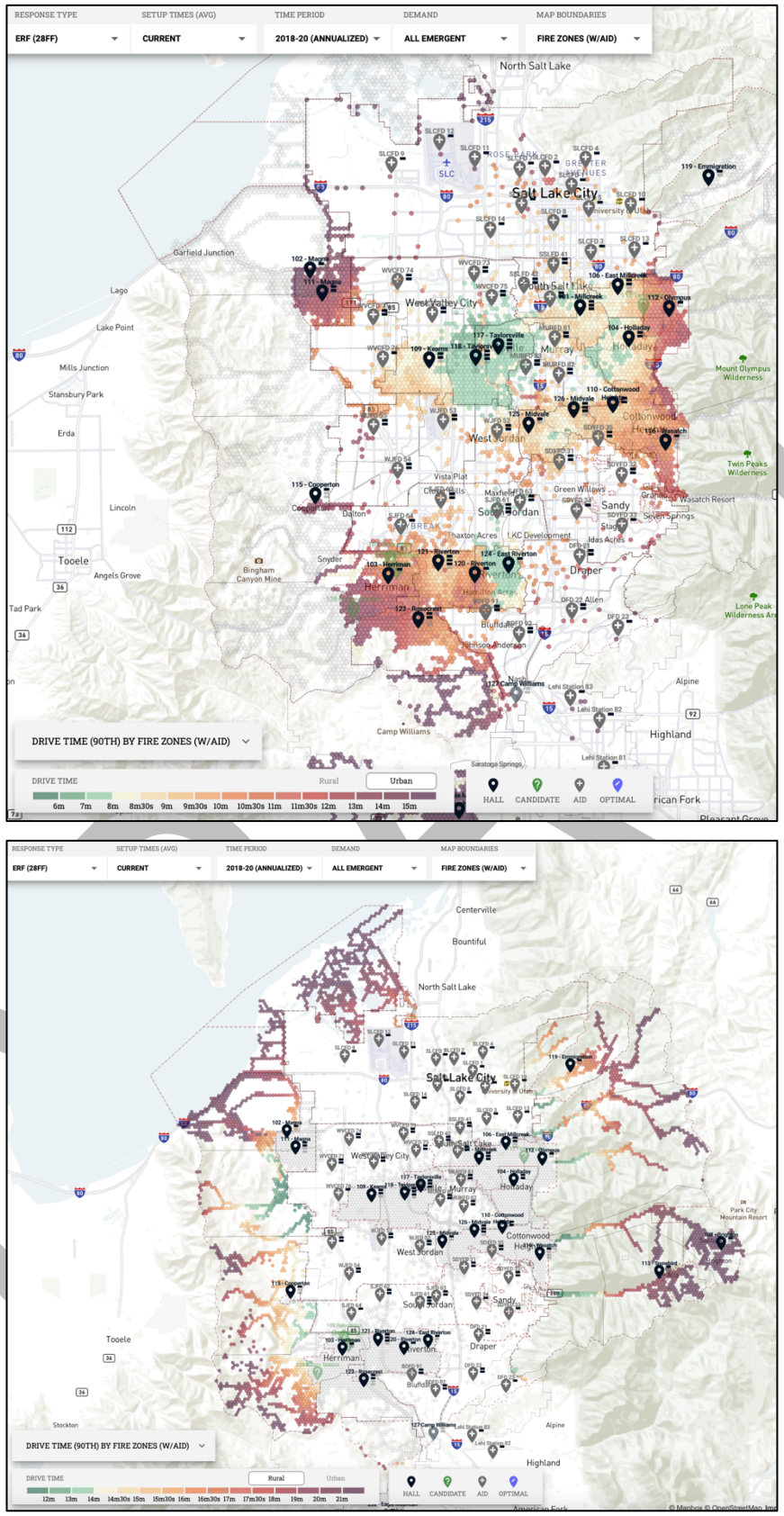
Map 47 – UFA Salt Lake County Response Times Urban (Top) and Rural (Bottom) – Residential Fire Effective Response Force (17 ERF)



Map 48 – UFA Utah County Response Times Rural – Residential Fire Effective Response Force (17 ERF)

Unified Fire Authority – Commercial Fire Effective Response Force (28 FF)

These maps demonstrate the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. This is one of the gaps that is currently identified as there is no effective mechanism to capture units beyond the first arriving unit.



Map 49 – UFA Salt Lake County Response Times Urban (Top) and Rural (Bottom) – Commercial Fire Effective Response Force (28 ERF)

Unified Fire Authority Risk Assessments

	Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Town of Alta	Low	Low	Low	Low	High	Mod	High	Low	Low	Low	Low	Low
Town of Brighton	Low	Low	Low	Low	High	Mod	High	Low	Low	Low	Low	Low
Camp Williams	Low	Low	Low	Low	Low	Low	High	Low	Low	Low	Low	Low
Copperton Township	Low	Low	Low	Low	Low	Mod	Mod	Low	Low	Low	Low	Low
City of Cottonwood Heights	Mod	Mod	Mod	High	Low	High	Mod	Mod	Low	Mod	High	Mod
Eagle Mountain City	High	Mod	Low	Low	Low	Mod	High	Mod	Low	Mod	Low	Mod
Emigration Township	Low	Low	Low	Low	Low	Mod	High	Low	Low	Low	Low	Low
Herriman City	High	High	Low	Low	Low	Mod	Mod	Low	Low	High	Mod	High
Holladay City	Mod	Low	Mod	Mod	Low	High	Low	Low	Low	High	Mod	Mod
Kearns Township	Mod	Low	Low	Low	Low	Mod	Low	Low	Low	High	Low	Mod
Magna Township	Mod	High	High	High	Low	Mod	High	Low	Low	Mod	Mod	Mod
Midvale City	Mod	Low	High	Low	Low	Mod	Low	Mod	Low	Mod	High	Mod
Millcreek City	High	Mod	Mod	Mod	Low	High	Mod	Mod	Mod	High	High	High
Riverton City	Mod	Mod	Low	Low	Low	Mod	Low	Mod	Mod	High	Mod	High
City of Taylorsville	High	Mod	High	Low	Low	Mod	Low	Mod	Mod	High	High	High
Unincorporated Salt Lake County	High	High	Low	High	Mod	Mod (West) High (East)	High	Mod	Low	Low	Mod	Low

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

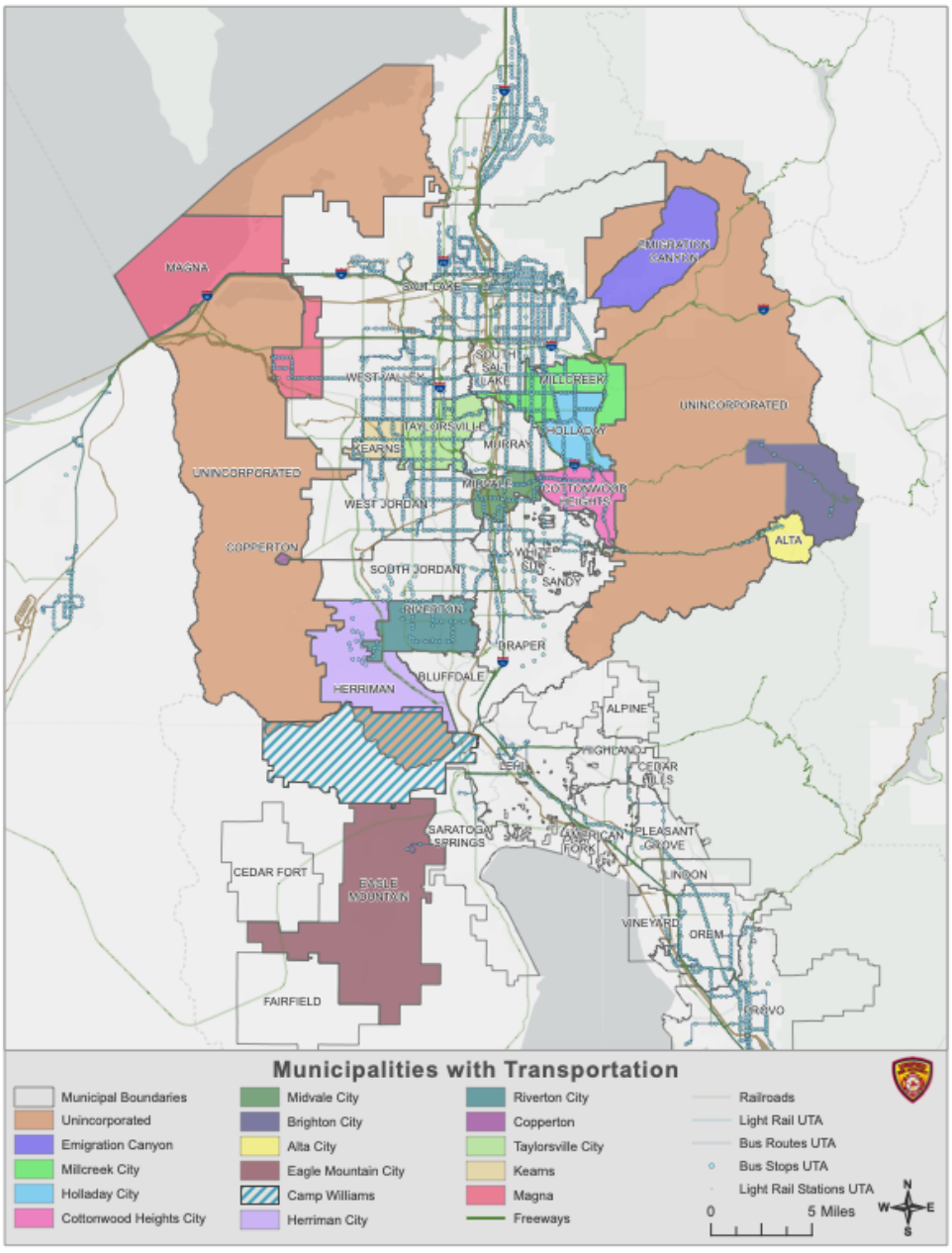
Chart 12 - UFA Risk Assessments

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Critical Infrastructure

Infrastructure – Transportation

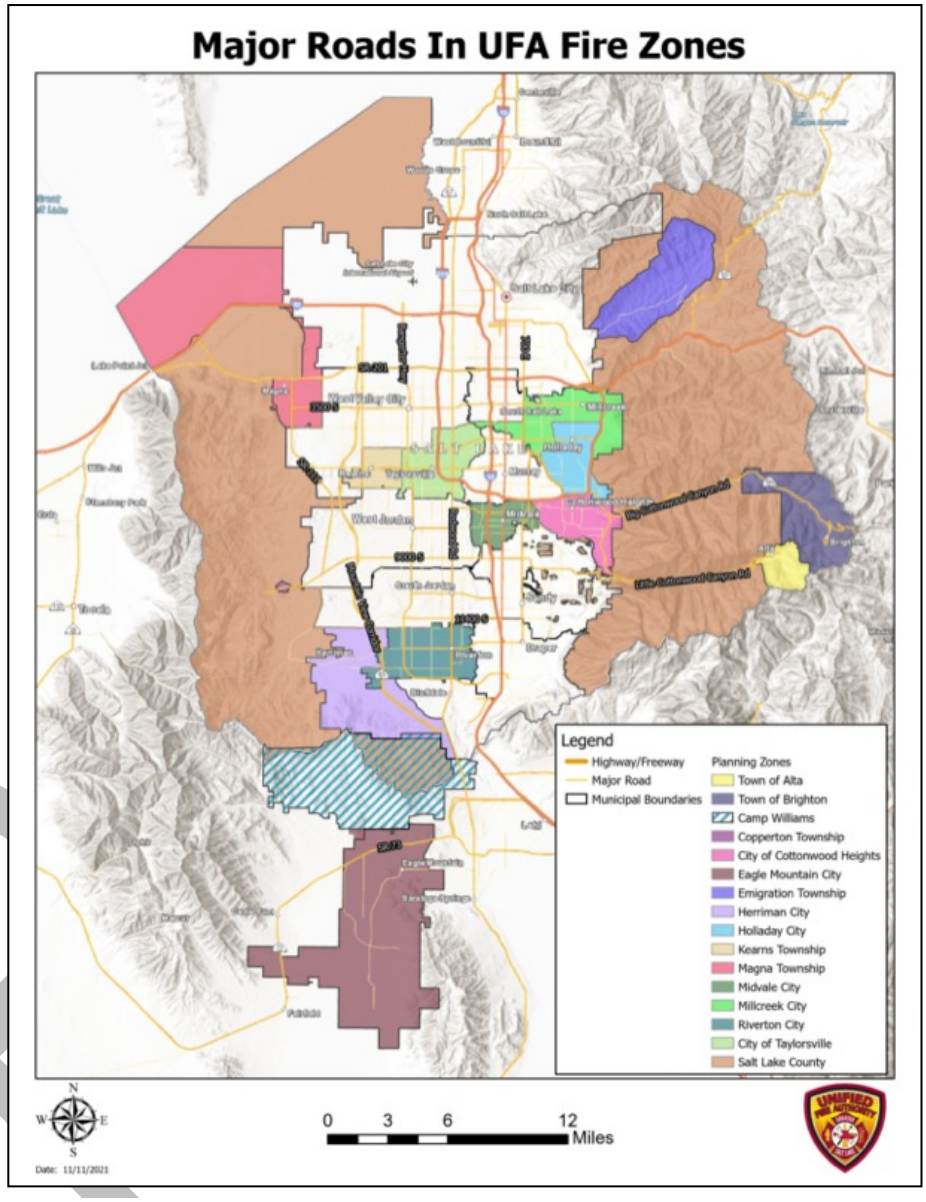
The Utah Transit Authority (UTA) is the primary provider of mass transit within the State of Utah and Salt Lake County. UTA provides commuter rail (FrontRunner), light rail (Transit Express or TRAX), and bus systems. There are also multiple freeways and highways that run through the Salt Lake Valley, and the State of Utah, providing critical transportation corridors with both a primary East/West Interstate (I-80) and a North/South Interstate (I-15).



Map 50 - Municipalities with Transport Corridors

Highways and Roads

The highways and roads within the Service Area are what provide the necessary access and egress for the Authority. These transportation corridors are intertwined and are a mix of surface streets, intersected highways and freeways all within the jurisdiction. Surface streets are most common.



Map 51 - Location of Major Freeways/Highways Within the Service Area

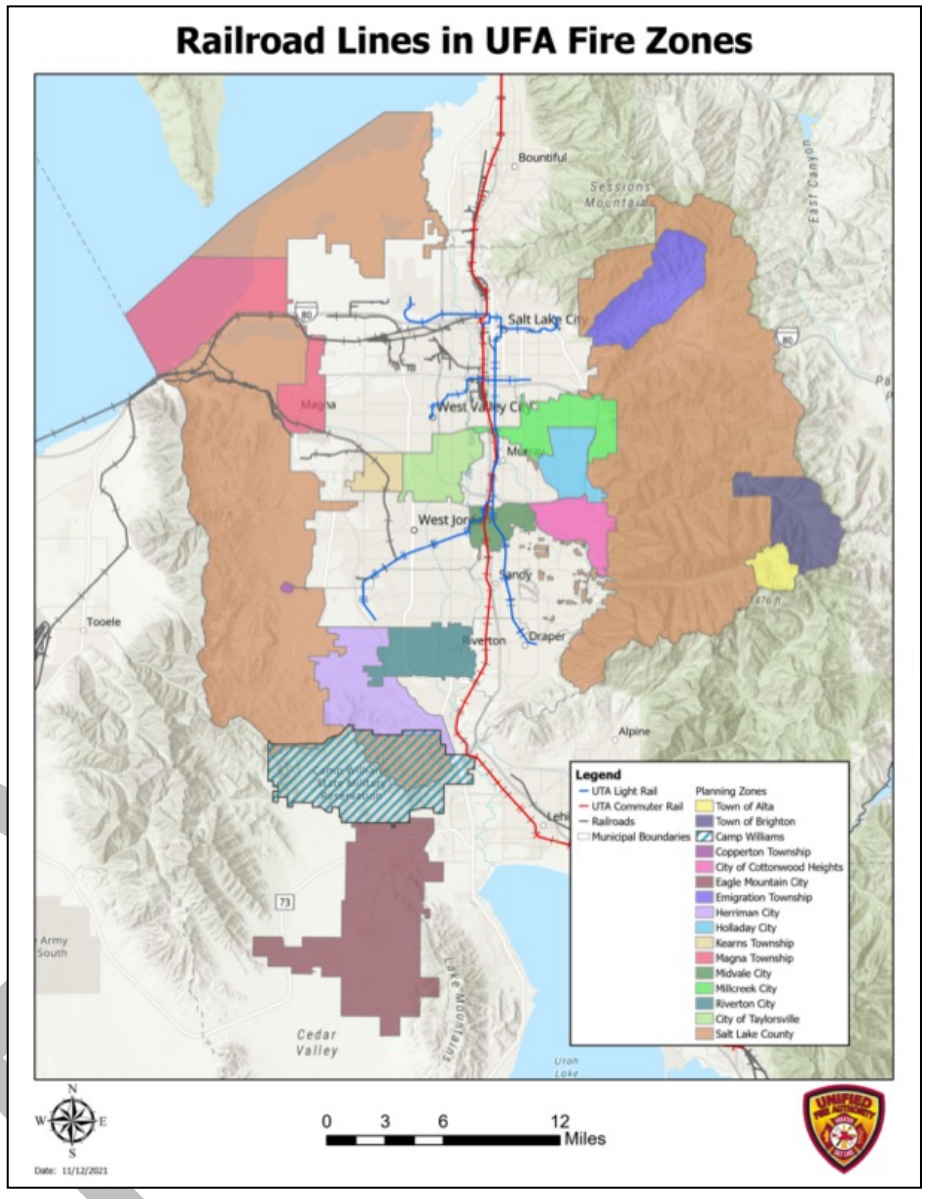
These provide the main travel routes to emergency incidents. Bangerter Highway and Mountain View Corridor are intersected highways that are main routes north and south through the Service Area. The main interstate is I-15, which divides much of the area from east to west, and I-215 which is a belt route that provides access to interior areas of the jurisdiction.

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Railroad Lines

Several railroad lines traverse through Salt Lake County and the lines run through portions of the Unified Fire Authority service area.

The major rail lines carry various commodities which include hazardous materials and other dangerous cargo. One major rail yard operated by Union Pacific (Roper Yard) is located in Salt Lake County, just outside of the service area. Passenger rail which includes Amtrak and commuter rail from UTA also runs through the jurisdiction.



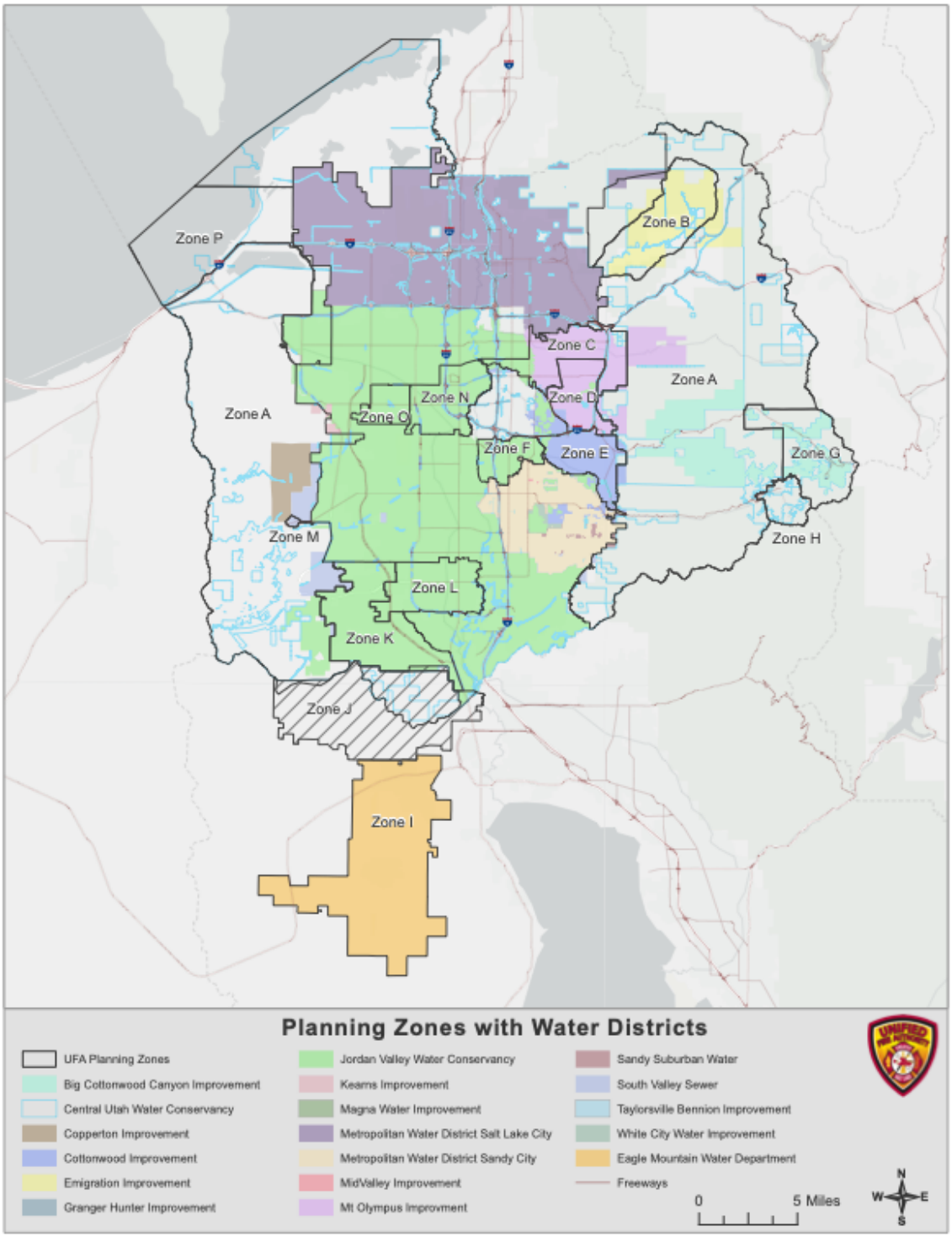
Map 52 - Location of All Rail Lines Within the Service Area

Several spur lines operated solely for industrial use are operated in the western section of the service area by the Bingham Canyon Mine (Rio Tinto).

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Infrastructure – Water Supply

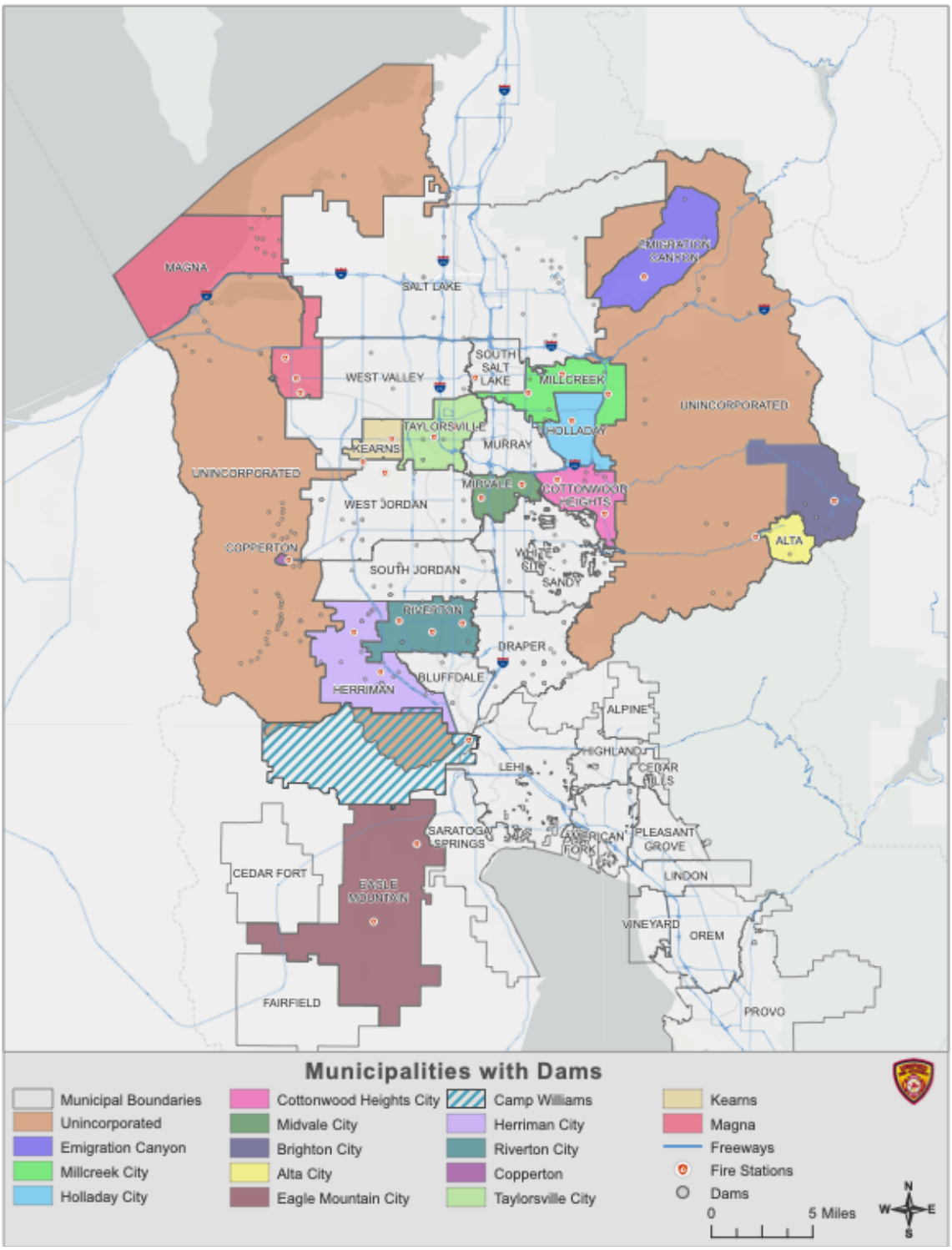
Within the Salt Lake Valley, there are twenty-nine water districts, all either special service districts or municipally based water districts. Within UFA's planning zones, there are eighteen water districts.



Map 53 – UFA Planning Zones with Water Districts

Infrastructure – Dams

Within the Salt Lake Valley, there are 290 dams. Within UFA's Planning Zones, there are 144 of those dams.

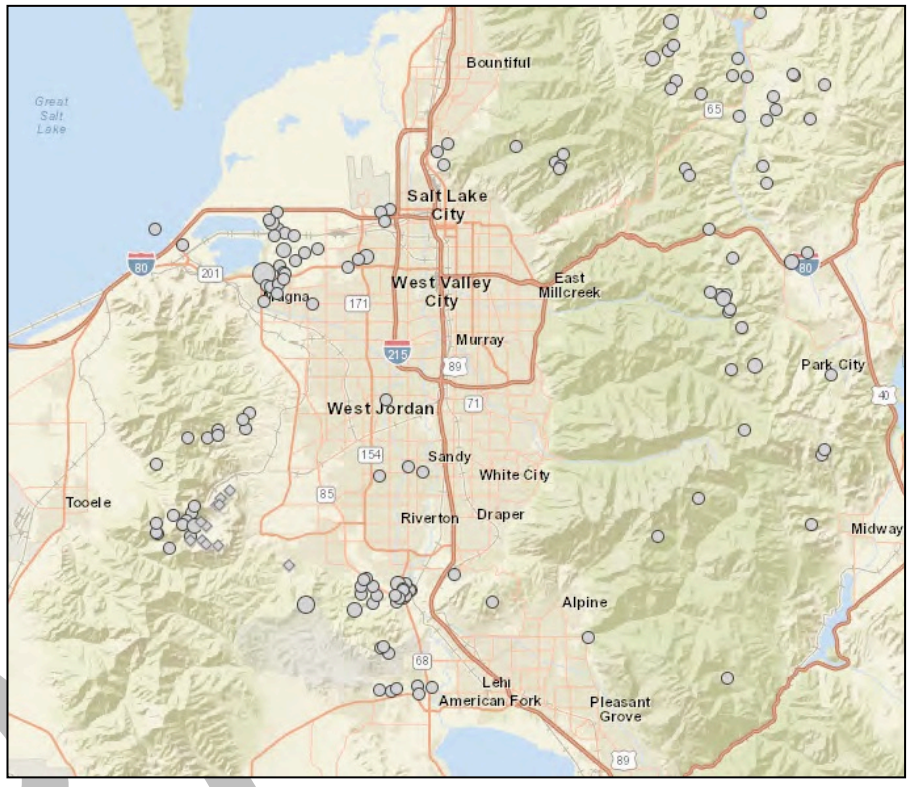


Map 54 - Dam locations within the Salt Lake Valley

Salt Lake County Natural Hazards Risks

Earthquake

Utah's earthquake hazard is greatest within the Intermountain Seismic Belt (ISB), which extends 800 miles from Montana to Nevada and Arizona, and trends from North to South through the center of Utah (The Wasatch Fault, UGS PIS 40). The Wasatch Fault traces along the base of the Wasatch Mountain Range. It is made up of 10 segments that act independently, meaning that a part of the fault ruptures separately as a unit during an earthquake.



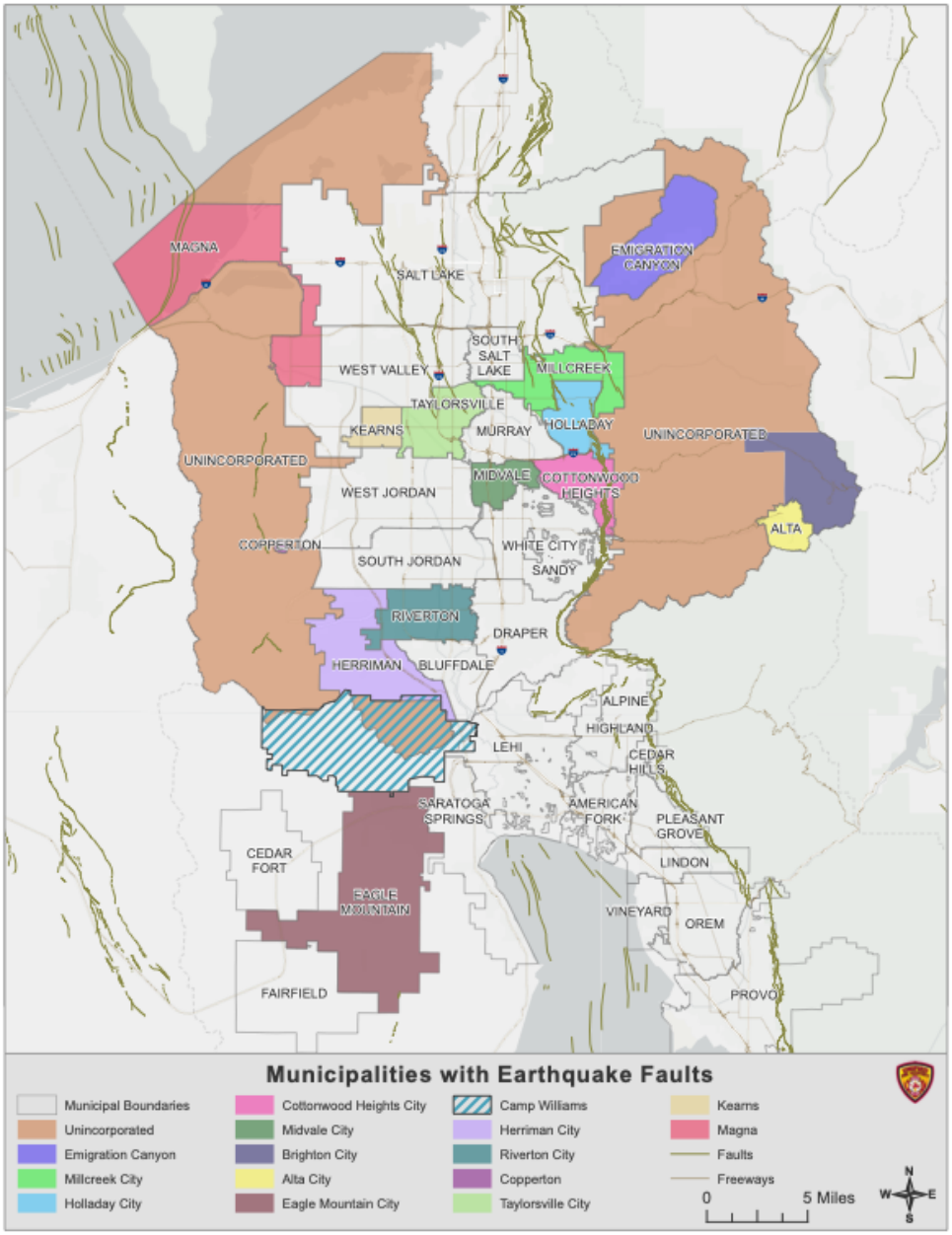
Map 55 - Earthquakes in Salt Lake County >2.0, 1962-July, 2019: Source: www.earthquake.usgs.gov

According to USGS records, there have been 152 recorded earthquakes of 2.0 magnitude or greater that occurred in or immediately around Salt Lake County from 1962 through July 2019.

Significant earthquakes have occurred in Salt Lake County within the last 50 years.

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In 2020, a 5.7 earthquake occurred in Magna. In 1962, a 5.2 Richter magnitude quake also jolted the Magna area. In 1992, a magnitude 4.2 quake shook the southern portion of the County.

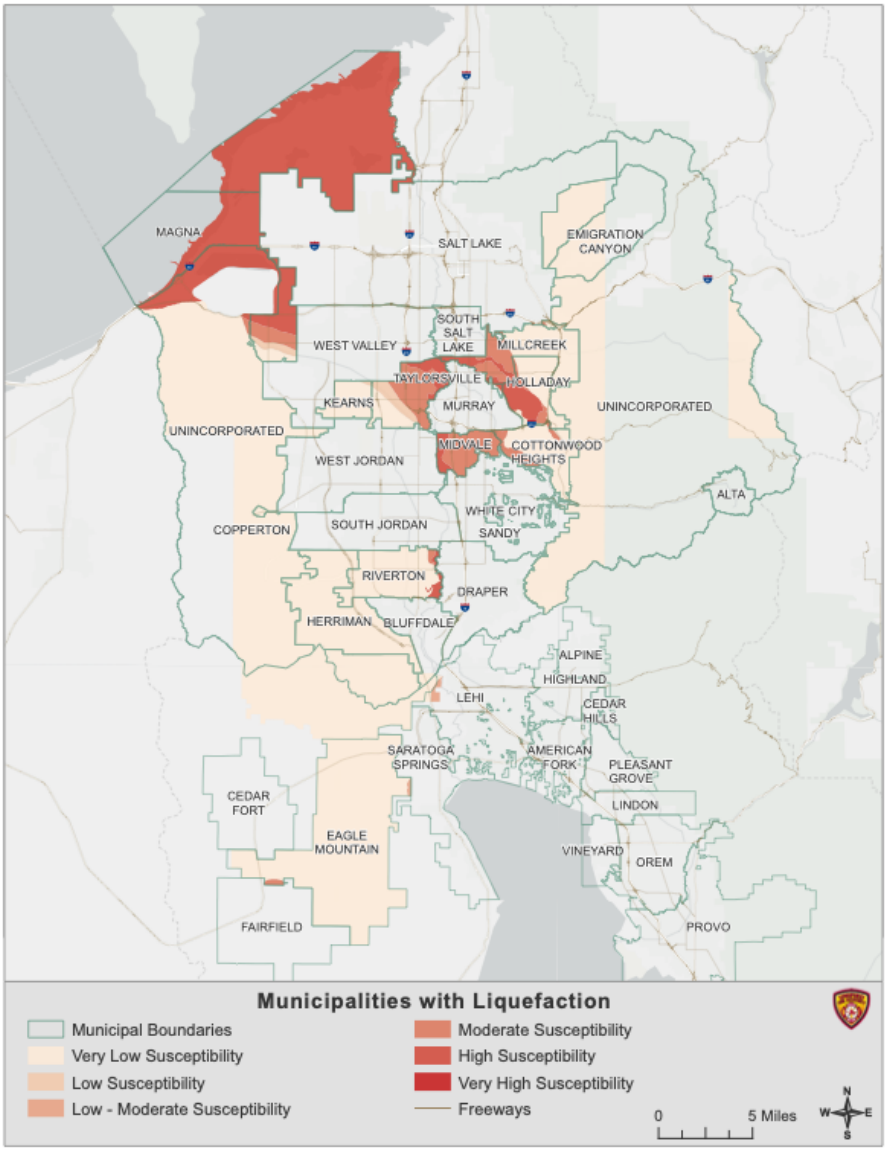


Map 56 - Earthquake Faults in the Salt Lake Valley

The faults illustrated in the above map include the following (see table below).

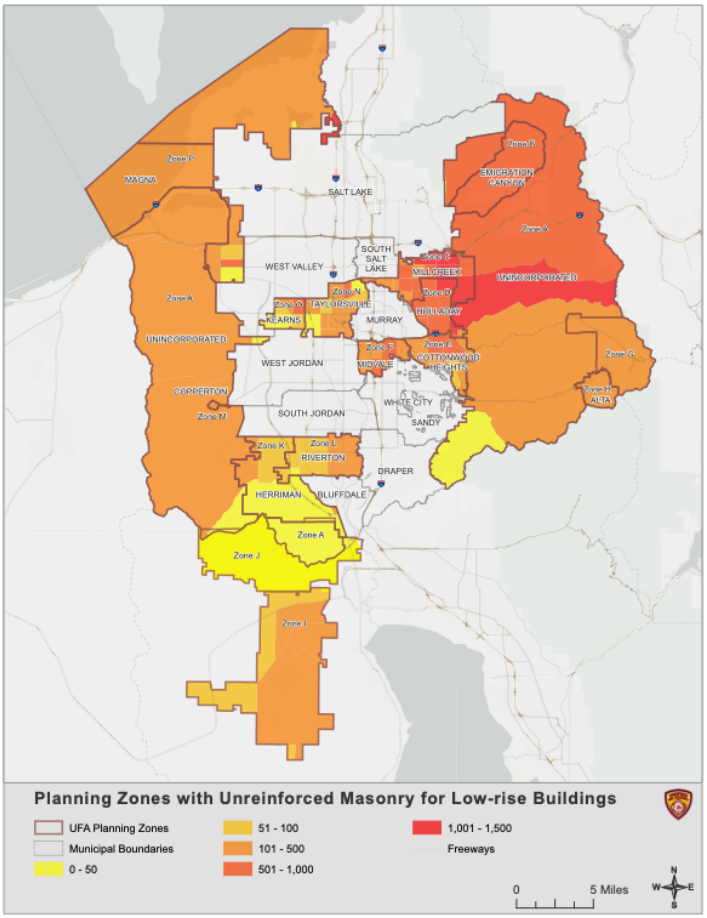
Name	Fault Type	Length (km)	Time of Most Recent Deformation	Recurrence Interval
East Great Salt Lake fault zone, Antelope Island section	Normal	35	586 201/-241 cal yr B.P.	4,200 years
Wasatch fault zone, Salt Lake segment	Normal	43	1,300 ± 650 cal yr B.P.	1,300 years
West Valley fault zone, Granger segment	Normal	16	1,500 ± 200 cal yr B.P.	2,600-6,500 years
West Valley fault zone, Taylorsville segment	Normal	15	2,200 ± 200 cal yr B.P.	6,000-12,000 years

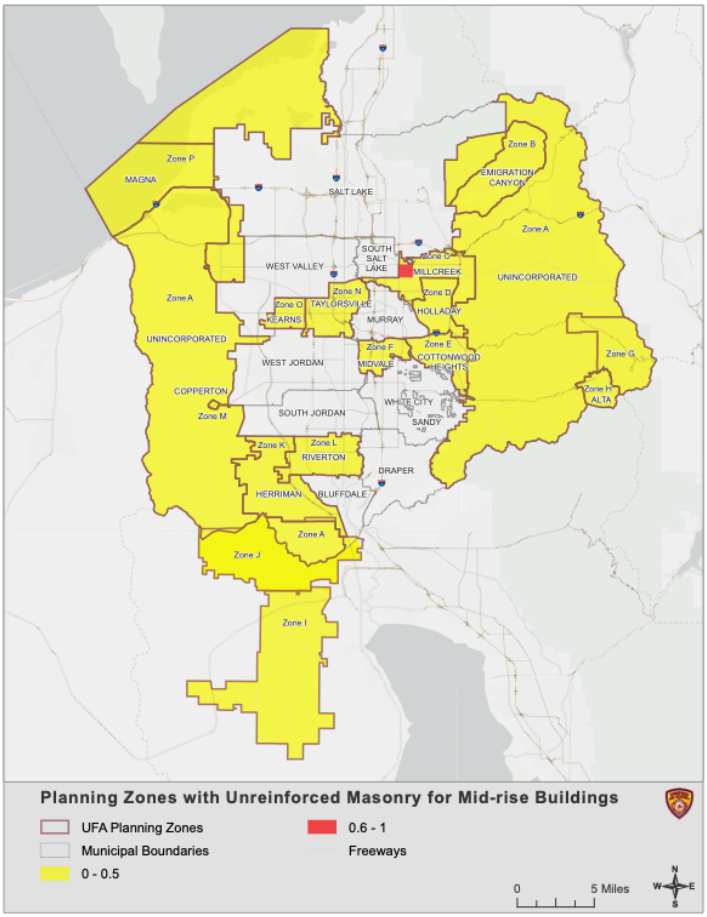
Table 42 - Quaternary Faults, Salt Lake County
Source: USGS Earthquake Catalogue



Map 57 - Liquefaction Areas

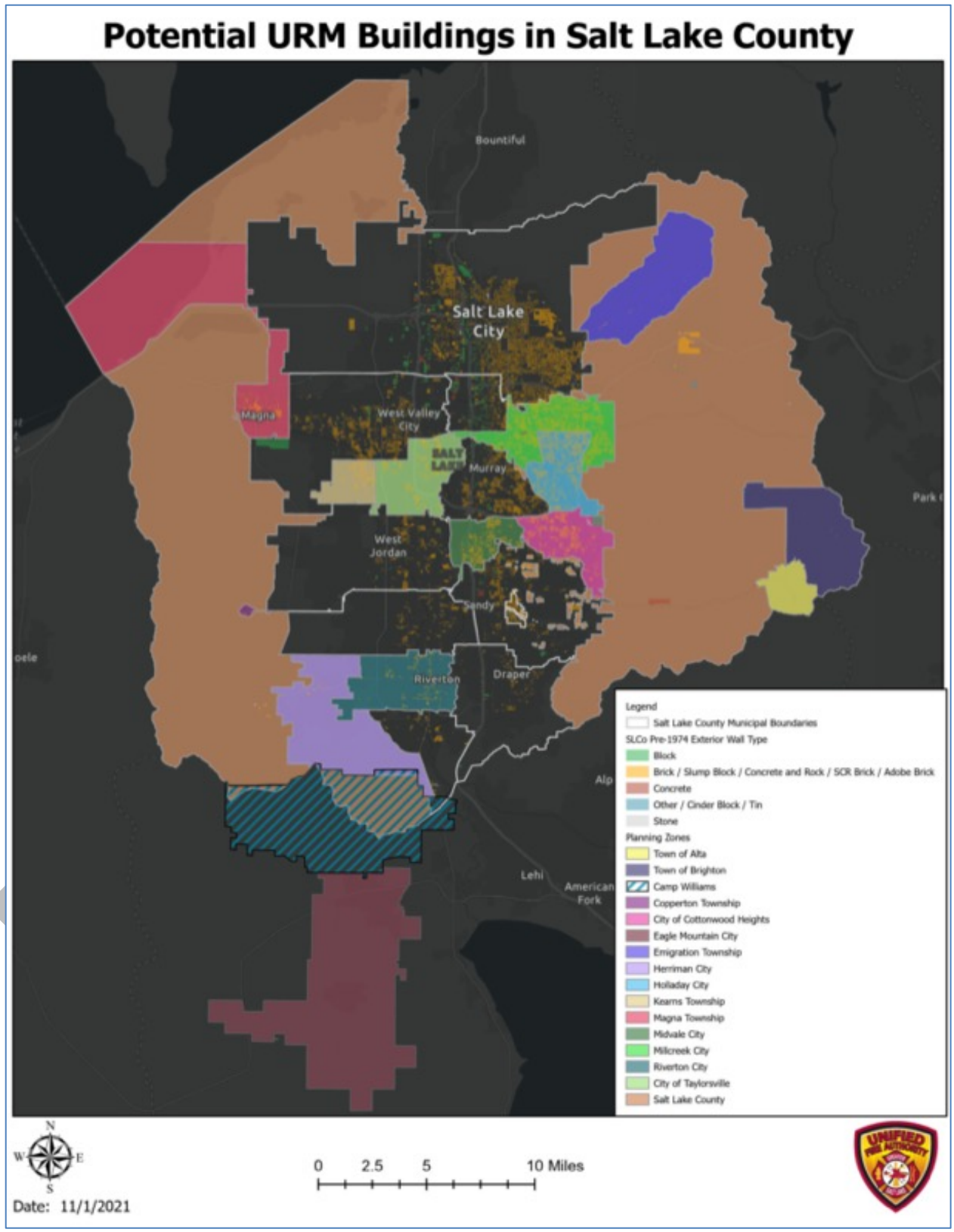
One of the primary risks that is inherent with any earthquake is the amount of unreinforced masonry (URM) structures in a given area. The associated maps show the primary locations of URM's in UFA's areas for both low and mid-rise buildings. This is based off of FEMA Hazus data and only shows areas by census tracts.





Map 58 – Unreinforced Masonry Building Locations

The map below shows structures within the municipalities that are most likely URM's based off of FEMA data.



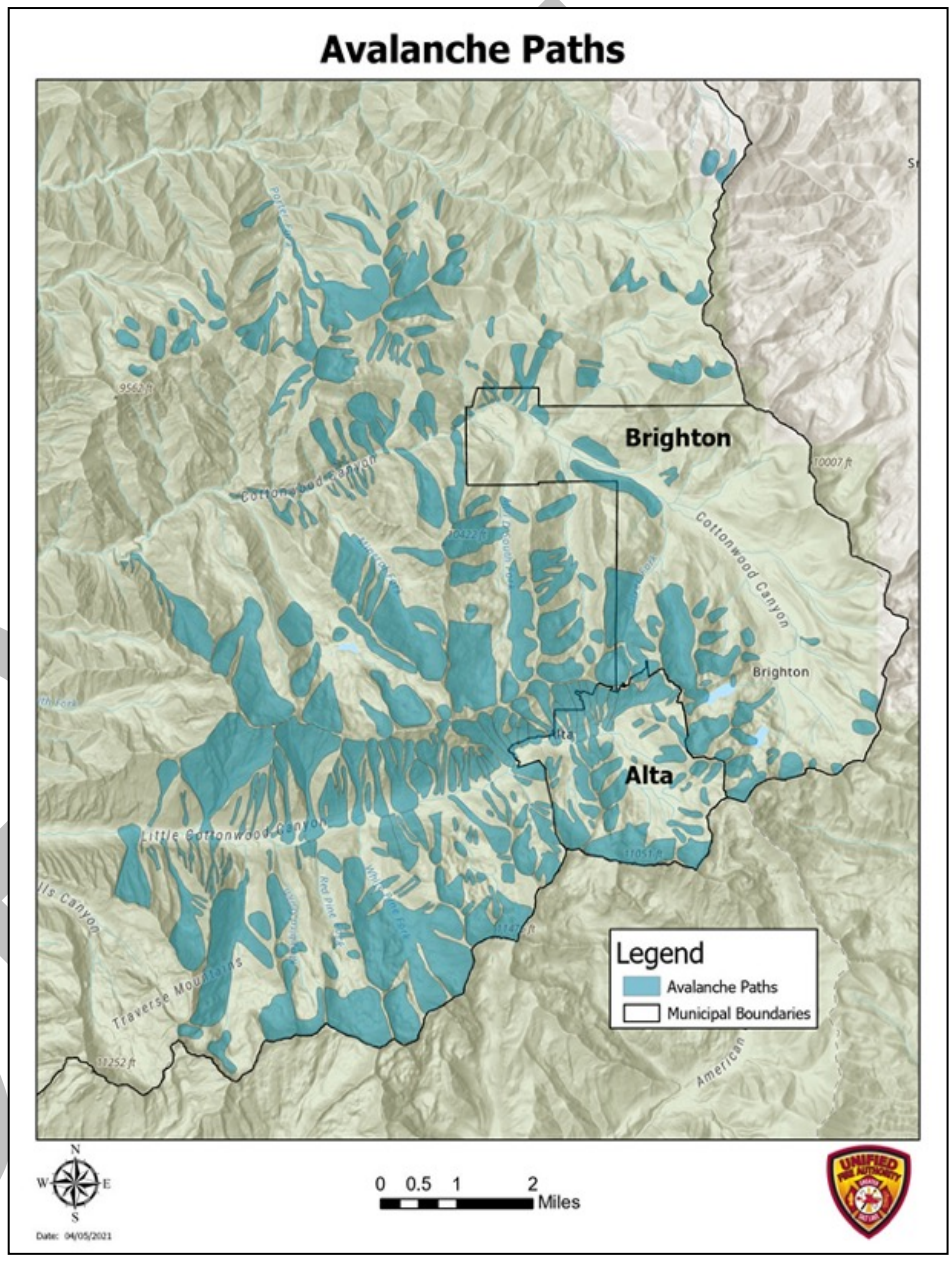
Map 59 - Potential URM Buildings in Salt Lake County

Weather – Avalanche

The risk for avalanches exists primarily in the Wasatch Range — due to the high recreation use and increasing development — although they do occur throughout Utah's mountainous areas. Avalanche paths may not have a serious avalanche for years or even decades, but the potential is there especially during above average snowfall years (UNHH 2008).

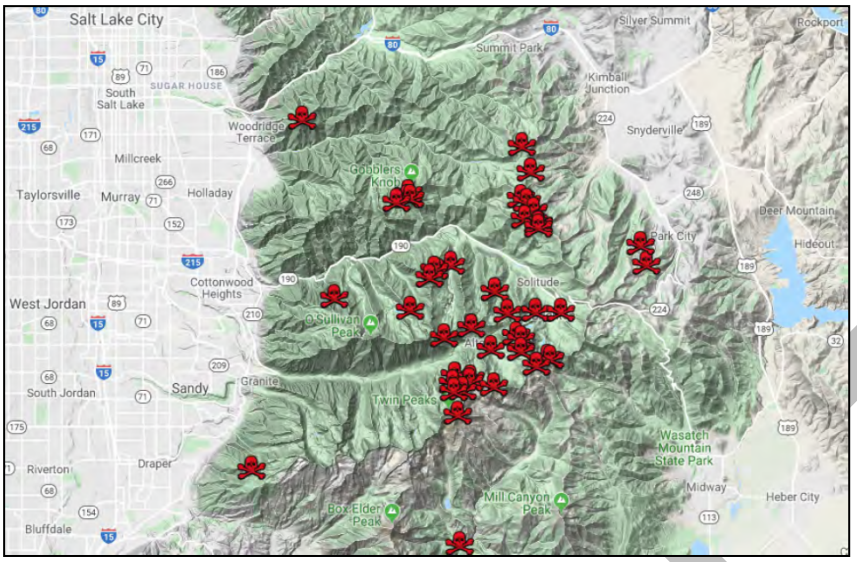
In Utah, 100 avalanche deaths have occurred from 1958-2010. Avalanche risk is particularly centered around the Big and Little Cottonwood Canyons. The Town of Alta is especially at risk to the impacts of avalanches.

The following maps from the Utah Avalanche Center shows the locations of all reported avalanche events from 2015 to 2019, as well as the locations of all reported avalanche fatalities in the Salt Lake County Region.



Map 60 - Salt Lake County Region Avalanche Locations
Source: https://utahavalanchecenter.org/avalanches

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Map 61 - Salt Lake County Region Avalanche Fatality Locations: Source: https://utahavalanchecenter.org/avalanches

Highway 210 (Little Cottonwood Canyon) also has the highest avalanche hazard-rating index of any major roadway in the country. At times when UDOT and Alta agree that conditions are unsafe, the town goes into an Interlodge Alert, meaning all occupants of the town (including both visitors and residents) must remain indoors until conditions are deemed safe. At times, Interlodge can last days until the storm cycle is over and proper avalanche control work has been performed.

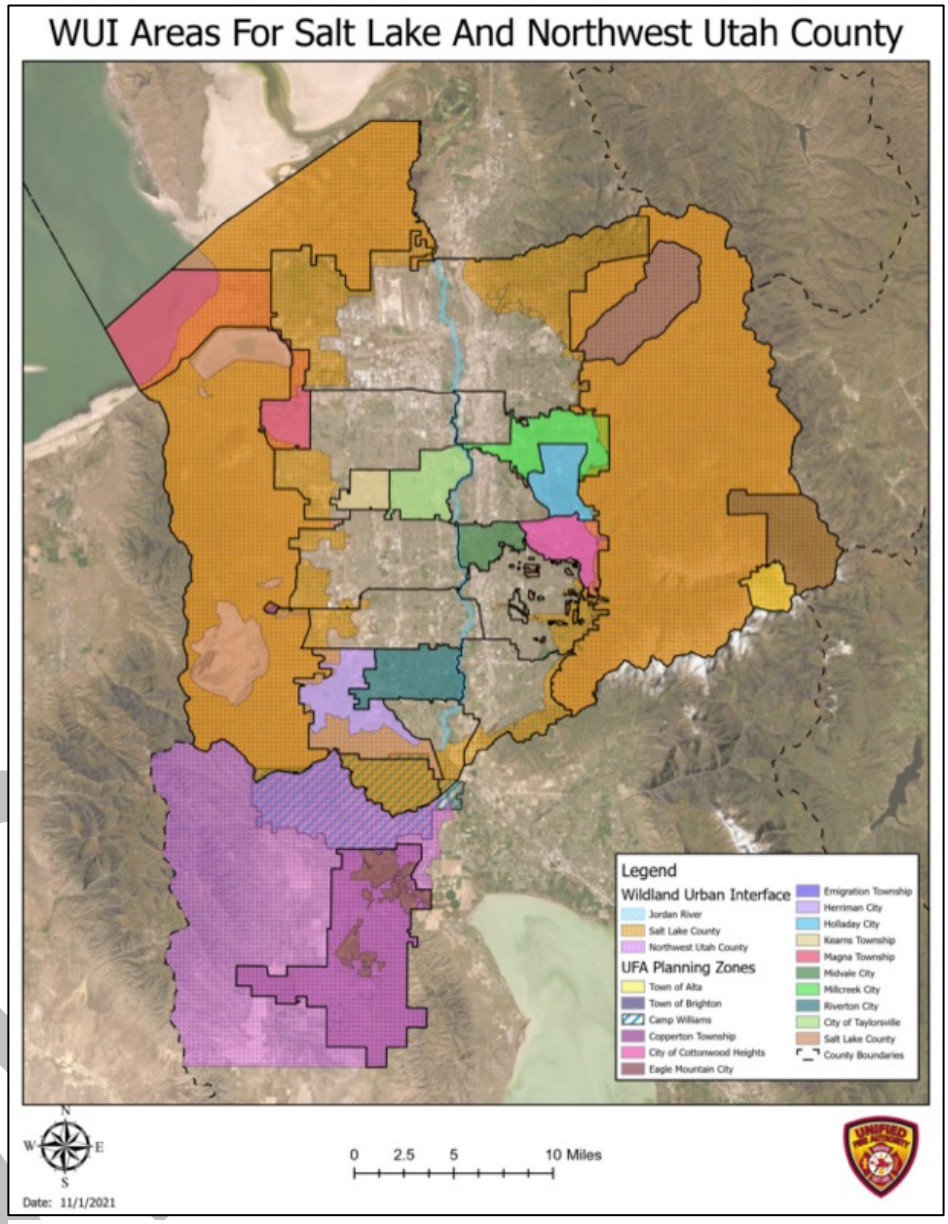
The Town's General Plan (dated November 2005, Updated 2013) covers Highway 210 access and possible mitigation activities to keep this critical road open. It also provides background on the Little Cottonwood Canyon Road Committee, a group consisting of representatives from Alta, Snowbird, Salt Lake County, Unified Fire Authority, UDOT, UTA, and USFS, that meet monthly to discuss access, usage, and safety and security issues related to the canyon road. (SLCoHMP)

Wildland Urban Interface (WUI)

Portions of Salt Lake County could experience a significant amount of destruction due to a wildland fire include the foothills and the bench areas on or near the Wasatch Range, Traverse Mountain and the Oquirrhs.

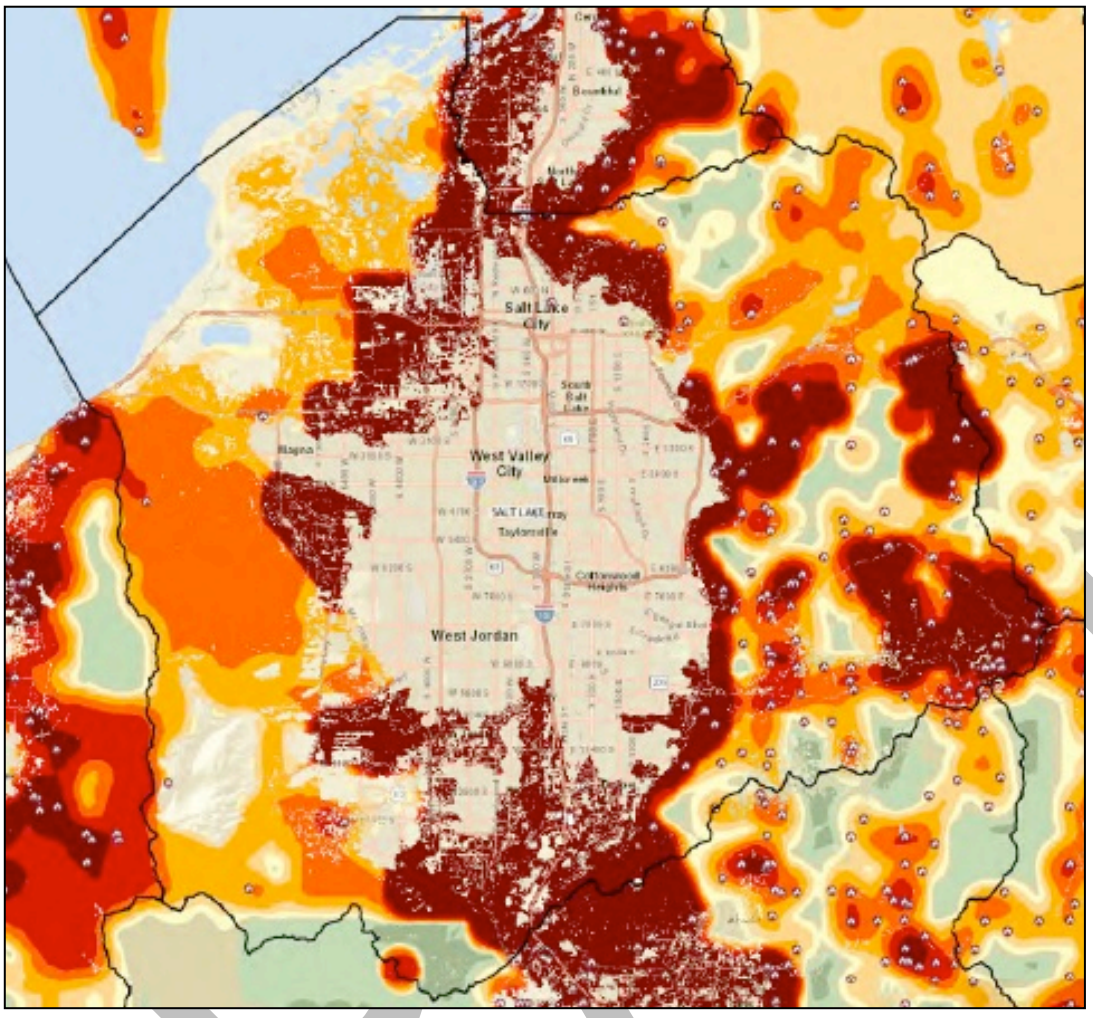
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These WUI areas are threatened most because of the number of forested lands and the increasing population growth spreading into the foothills. Another concern is vegetation type in these areas such as sagebrush, mountain scrub oak, cheat grass, pinion and juniper trees, and rural and riparian vegetation.



Map 62 - Wildland Urban Interface Areas in Salt Lake County

Sagebrush and mountain shrub burn hot and fast, spreads easily and is found throughout the county. During prime burning conditions (hot, dry and windy) the pinion juniper class will burn. As can be seen in the map below, historical wildfire ignition points have been marked, and areas most likely to be the source of ignition based on historical patterns are darkly shaded. (2019 Salt Lake County Multi-Jurisdictional Hazard Mitigation Plan)



Map 63 - Historical Wildfire Ignition Points, SLCo

As population growth continues, pressure to develop in WUI areas is likely to increase the threats associated with fire. Mitigation measures will need to be recognized and enforced to reduce these threats. Part of these mitigation efforts are the creation and implementation of Community Wildfire Protection Plans (CWPP) that is a local, community-level approach to code, development review, ordinances, and local authorities, enabling communities to address community risk of wildfire with respect to values at risk. Within Salt Lake County, the following communities have current or in-progress CWPPs.

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Community	In Progress/Completed	Expiration	Firewise Community?
Alta	Completed	2025	No
Big Cottonwood Canyon / Brighton	Completed	2025	No
Copperton	In Progress		No
Cottonwood Heights	Completed	2025	No
Eagle Mountain	In Progress		No
Emigration Canyon	Completed	2026	Yes
Hi-Country 1 (Unincorporated SLCo)	Completed	2025	Yes
Hi-Country 2 (Unincorporated SLCo)	In Progress		No
Herriman	Completed	2025	No
Holladay	In Progress		No
Lamb's Canyon / Forest Home	Completed	2025	Yes
Magna	In Progress		No
Millcreek Canyon	In Progress		No
Mt. Aire	Completed	2026	No
Olympus Cove	In Progress		No
Salt Lake County	Completed	2024	No
White City	In Progress		No

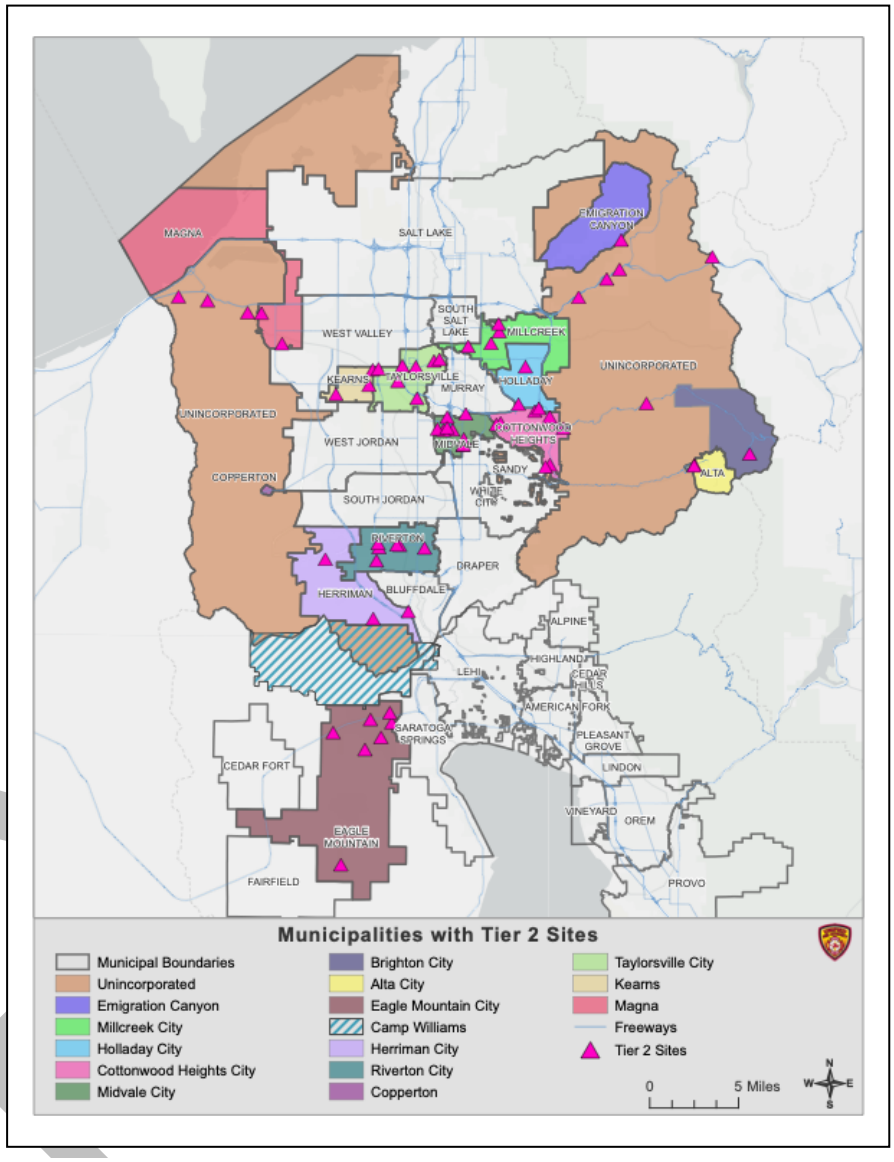
Table 43 - Community Wildfire Protection Plans and Communities

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Hazardous Materials

Occupancies which contain hazardous materials potentially pose a risk to the community and can create dangerous environments for firefighters when responding to a spill or fire. Specialized equipment, protective clothing and additional training is required to mitigate a hazmat incident.

Unified Fire Authority's Prevention Division conducts over 700 hazmat inspections each year. The associated map shows the location of Tier II sites within the service area.



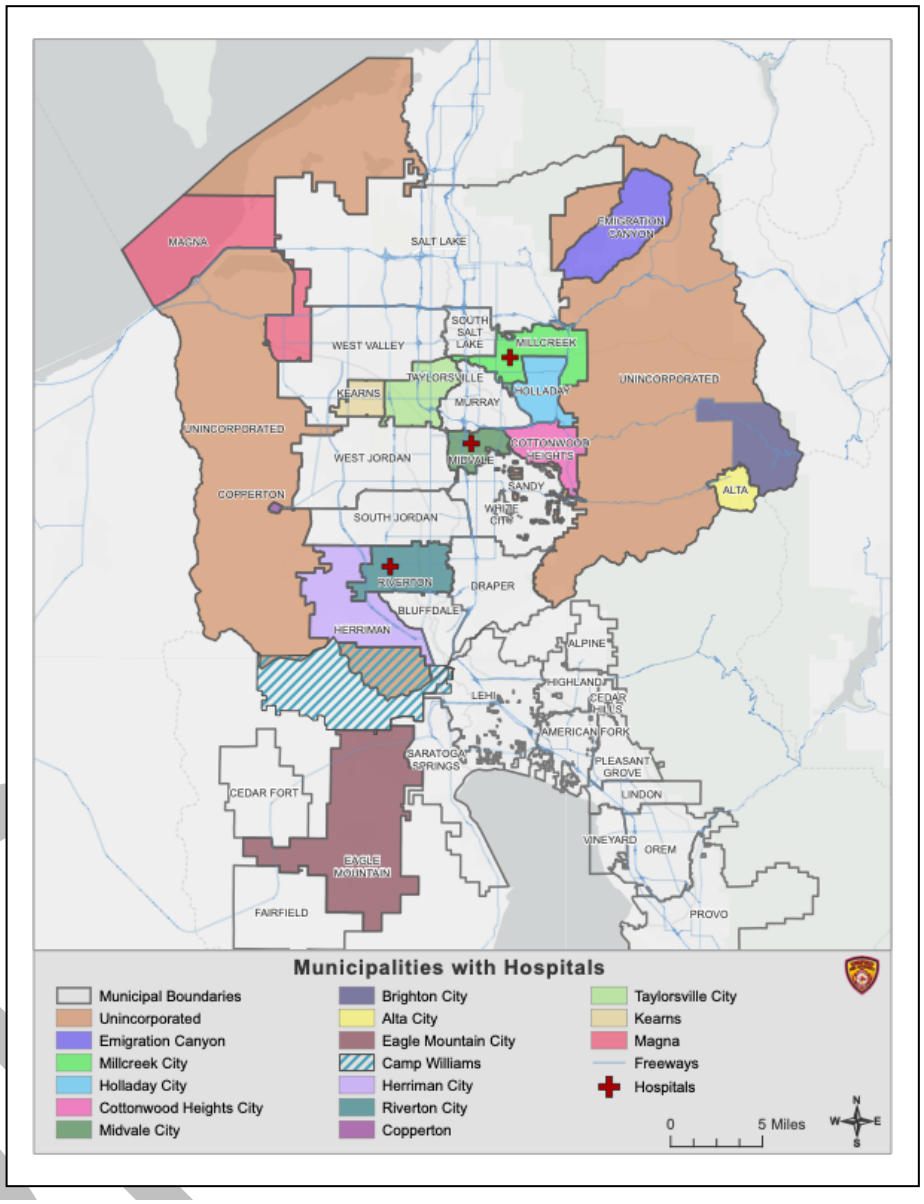
Map 64 - Tier II Sites in Salt Lake County

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Hospitals

Hospitals provide a critical service to injured, sick and vulnerable populations. These facilities are usually constructed of highly fire resistive construction with built in fire protection.

Emergencies which include but are not limited to fire incidents, may require emergency personnel to facilitate the rapid movement of patients away from the hazard.



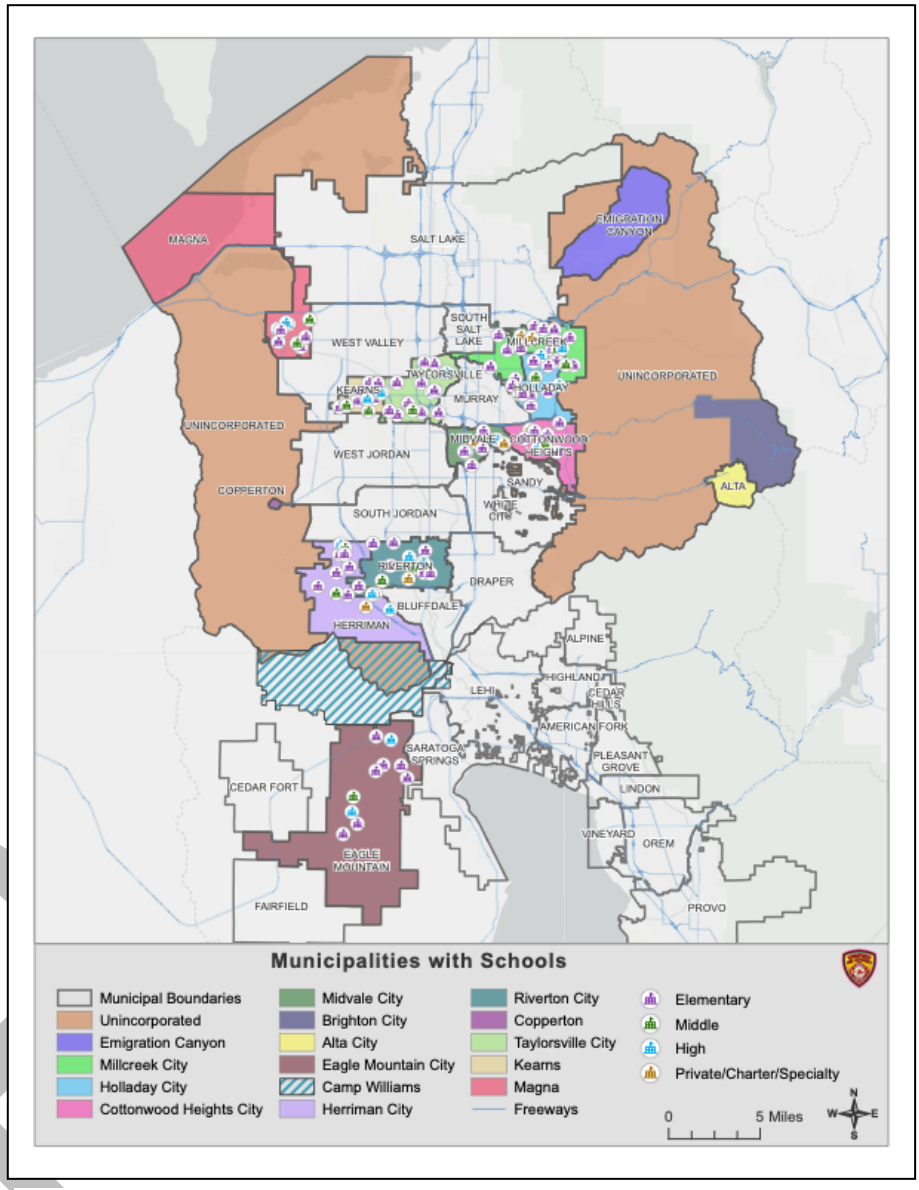
Map 65 - Location of All Hospitals Within the Service Area

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Schools (Public/Private)

Multiple school districts and private educational institutions operate within the service area. Unified Fire Authority provides protection to 62 elementary schools, 17 middle/junior high schools and 12 high schools. There are also 25 charter/private schools within the jurisdiction. This does not include the multitude of private and public pre-schools and day cares.

The number of school aged children protected is over 84,000.



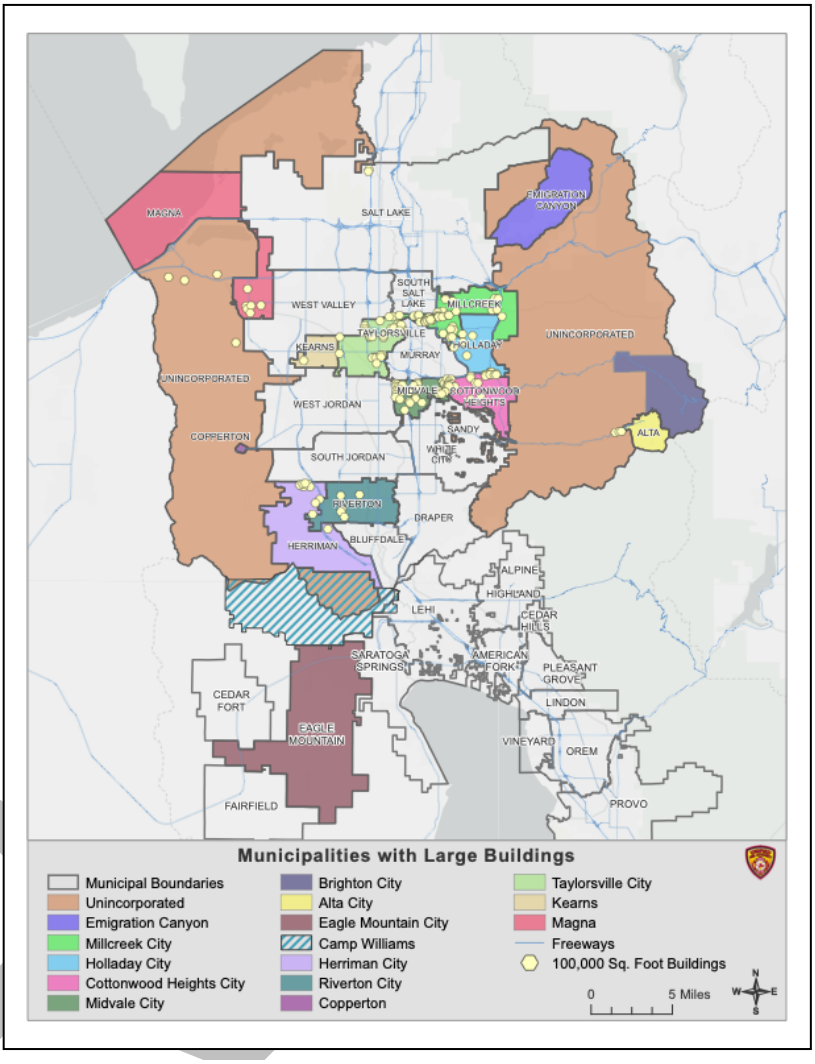
Map 66 - Location of All Schools Within the Service Area

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Large Square Footage Buildings

Larger buildings such as warehouses, mall, big box stores present several risks to response. These buildings which are over 100,000 square feet of space will require more water, apparatus and personnel to effectively control fires.

Within Unified Fire Authority there are 169 buildings which meet the definition of a large square footage building.



Map 67 - Location of All Large Buildings Within the Service Area

Mid-Rise Buildings

Buildings which are three or more stories in height are often classified as mid-rise buildings.

These buildings have specific hazards which include building heights that will typically require the use of an aerial apparatus to access the upper floors and the roof.

The number and placement of aerial apparatus assists in response to mid-rise buildings and also accomplishes the desired requirement of the ISO which is that an aerial apparatus is within two and a half miles from buildings that are three or more stories in height.

UFA protects approximately 1544 mid-rise buildings.

Life and Property Loss

From 2015-2020, there have been six fatalities attributed to fire (one of those occurred in Draper in 2016, which is no longer within UFA's service area). There has been a total estimate of $5,032,132 of property loss and a total estimate of $2,398,031 of content loss due to fire in 2020.

Unified Fire Authority Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

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Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Community	2018-2020 Battalion Chief or Operations Chief Responses
Alta	19
Brighton	64
Camp Williams	22
Copperton	19
Cottonwood Heights	267
Eagle Mountain	201
Emigration Canyon	36
Herriman	248
Holladay	254
Kearns	321
Magna	289
Midvale	416
Millcreek	632
Riverton	252
Taylorsville	698
Salt Lake County - Unincorporated	474
Unknown Location	1,233
Total BC/OC Responses	5,445

Table 44 - Total Battalion Chief / Operations Chief Responses 2018-2020

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Community	2018-2020 Heavy Rescue Company Responses
Alta	6
Brighton	7
Camp Williams	Unknown
Copperton	7
Cottonwood Heights	76
Eagle Mountain	6
Emigration Canyon	5
Herriman	88
Holladay	73
Kearns	104
Magna	79
Midvale	112
Millcreek	146
Riverton	81
Taylorsville	240
Salt Lake County - Unincorporated	81
Unknown Location	96
Total Heavy Rescue Company Responses	1,207

Table 45 - Heavy Rescue Company Responses 2018-2020

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Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Community	2018-2020 HazMat Company Responses
Alta	3
Brighton	3
Camp Williams	0
Copperton	0
Cottonwood Heights	16
Eagle Mountain	56
Emigration Canyon	2
Herriman	16
Holladay	9
Kearns	15
Magna	13
Midvale	36
Millcreek	34
Riverton	18
Taylorsville	48
Salt Lake County - Unincorporated	21
Unknown Location	87
Total HazMat Team Responses	377

Table 46 - Hazardous Materials Company Responses 2018-2020

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Water Rescue Teams

UFA has standing water, swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Community	2018-2020 Water Rescue Responses
Salt Lake County - Unincorporated	2
Total Water Rescue Responses	2

Table 47 - Water Rescue Responses 2018-2020

– Of Note…

Water Rescues are often times dispatched as a medical call, a call for help, or a motor vehicle accident. UFA is aware there are more water rescue calls than what is captured within the data, and this is one of the gaps that has been identified throughout this process

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Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Community	2018-2020 Wildland Responses From 103
Alta	0
Brighton	2
Camp Williams	12
Copperton	6
Cottonwood Heights	20
Eagle Mountain	41
Emigration Canyon	11
Herriman	20
Holladay	21
Kearns	17
Magna	61
Midvale	0
Millcreek	62
Riverton	13
Taylorsville	38
Salt Lake County - Unincorporated	65
Unknown Location	126
Total Wildland Responses – From 103	515

Table 48 - Wildland Responses from Station 103, 2018-2020

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes.

The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other local, state, and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Community	2018-2020 Investigations Responses
Alta	2
Brighton	1
Camp Williams	1
Copperton	3
Cottonwood Heights	31
Eagle Mountain	10
Emigration Canyon	2
Herriman	22
Holladay	31
Kearns	42
Magna	42
Midvale	35
Millcreek	47
Riverton	46
Taylorsville	63
Salt Lake County - Unincorporated	17
Unknown Location	468
Total Investigations Responses	863

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals, canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force

members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Town of Alta

Community Risk Assessment



Town of Alta Planning Zone

UFA has one station within the Town of Alta Planning Zone covering a total of 4.1 square miles with a 2019 population of 261 and responded to 106 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Town of Alta	2019 - 261	0.05%	4.1	64	Rural

Alta has shown a slight decrease in its population from 270 in 2010 to 261 in 2019. In 2020, there was a decrease in its population to 228. It is noted that there were extenuating circumstances most likely due to the loss of typical residents during 2020 due to COVID-19 and the limitations placed on the skiing and recreation industry.

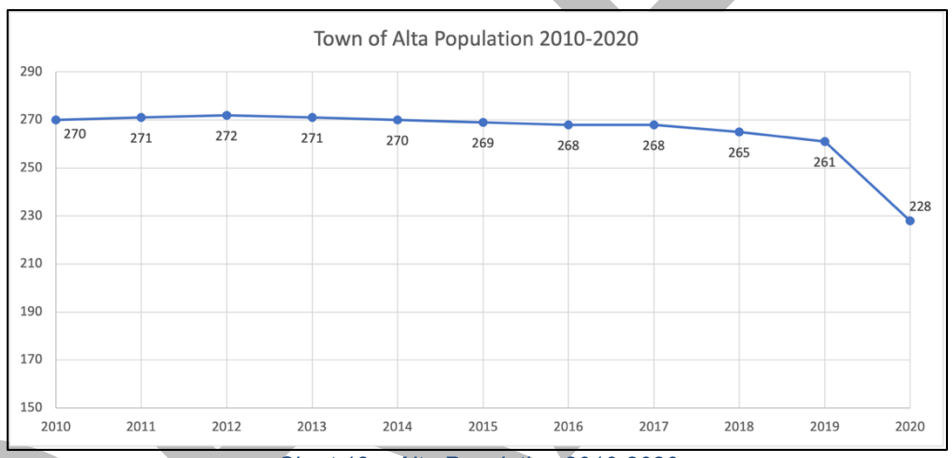


Chart 13 – Alta Population 2010-2020

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Town of Alta Station Information

Station 113 information:

- Owner – UFSA
- Opened – 1985
- Address – 9523 E. Bypass Rd., Snowbird
- Staffing and Apparatus –
  - Type 1/3, ME 113 (3 persons)
  - MA 113 (cross-staffed)



Image 3 – Alta Station 113

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to the Town of Alta are:

- UFA Station 116 (Cottonwood Heights), with a three-person medic engine

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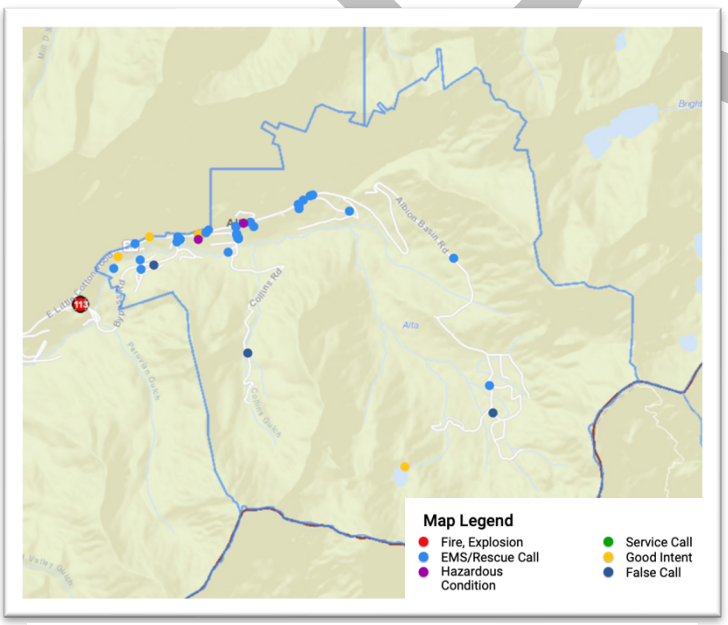
Alta – Incidents by Dispatch Type Found

The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

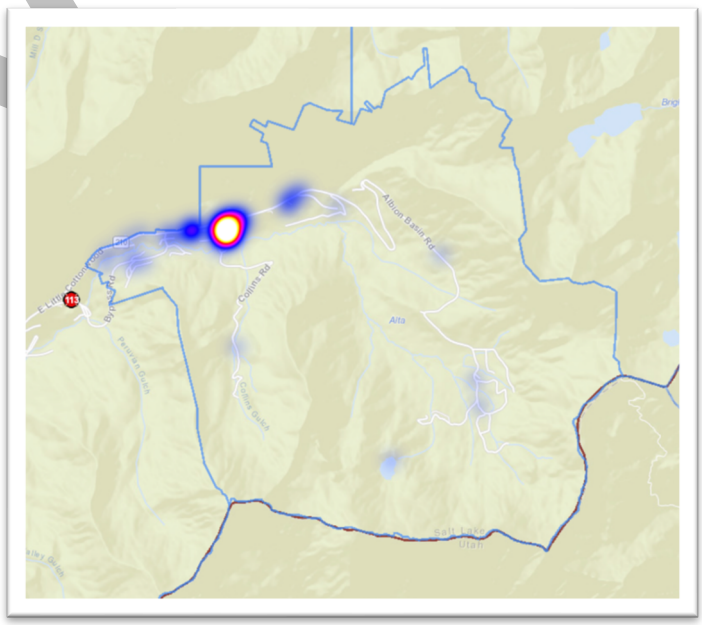
	CY 2020	CY 2019	CY 2018
Fire Suppression	0	3	0
EMS	69	66	80
Hazardous Materials	3	5	1
Service Calls	0	2	0
Good Intent	31	26	24
False Calls	3	6	3
Other (Misc., Flood, Overpressure)	0	0	0
Total	106	108	108
Cancelled	23	23	22
Overall Total	129	131	130

Table 49 – Alta Call Types

Alta – 2020 Incidents and Heat Map



Map 68 - Alta Incident Calls by Type



Map 69 – Alta Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

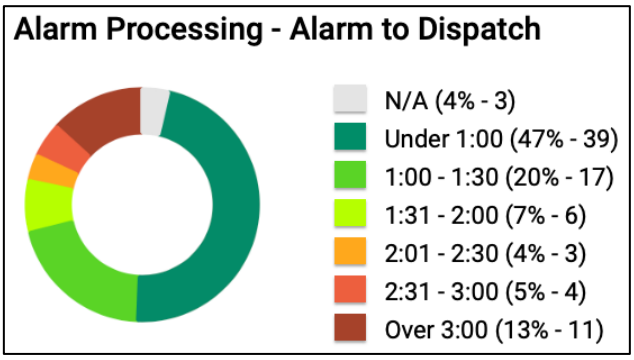
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

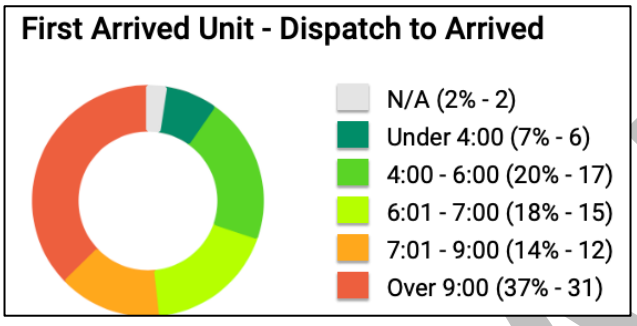
– Of Note…

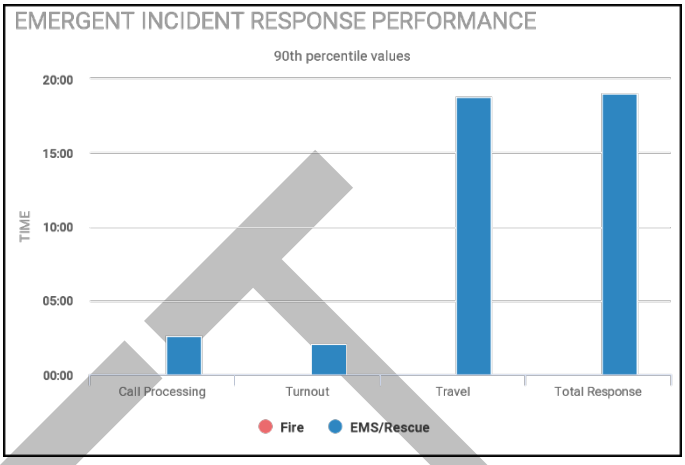
NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

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Alta – 2020 Dispatch and Response Times





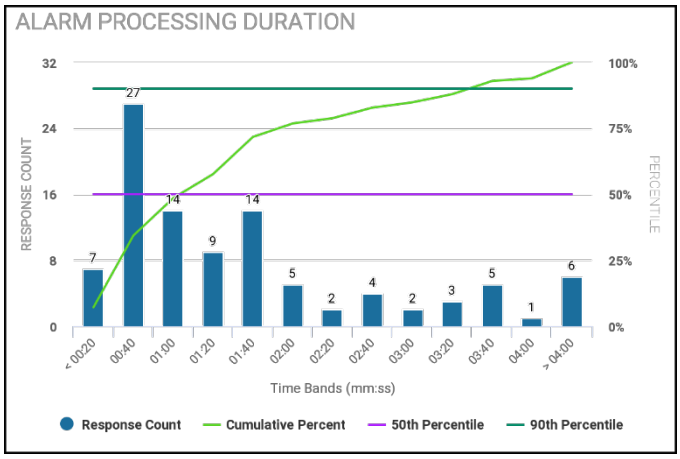


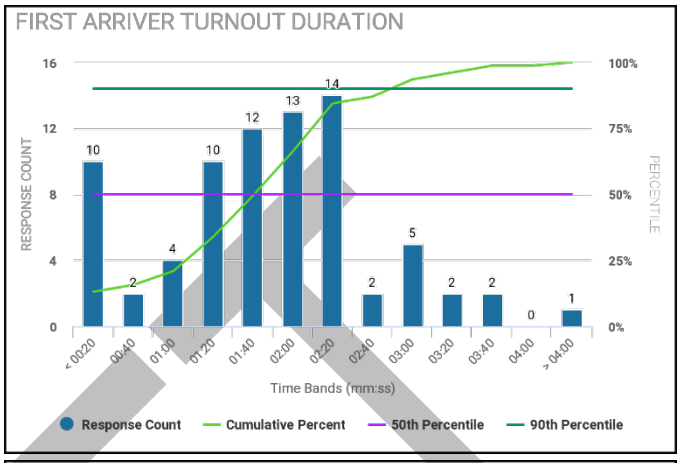
Rural	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Alta	3:37	3:14	13:36	16:13	2:35	2:42	20:43	23:13
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

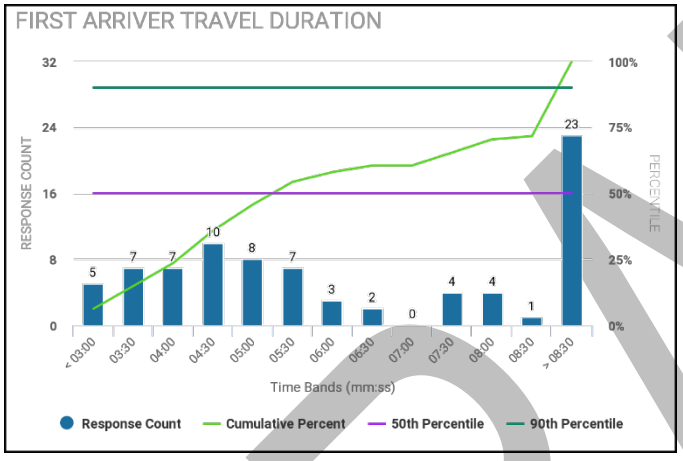
Table 50 – Alta 2020 Emergent Response Times, 90th percentile values

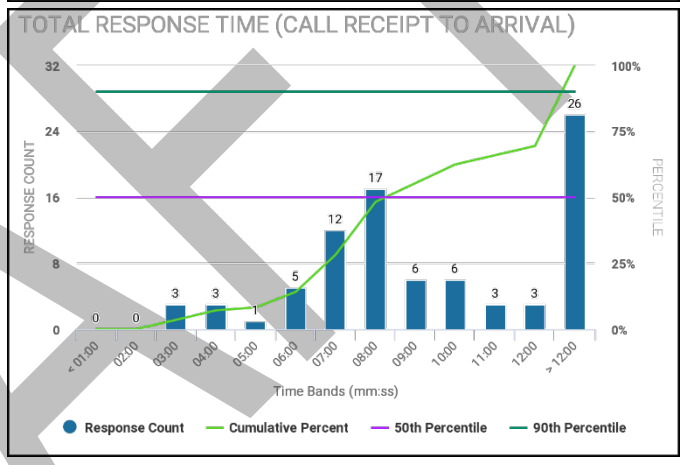
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Alta – 2020 Turnout and Travel Time









The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within the Town of Alta (90th percentile). The alarm processing for fire was 3:37 and 2:35 for EMS; turnout time was 3:14 for fire responses and 2:42 for EMS responses; travel time was 13:36 for fire responses and 20:43 for EMS. The 90th percentile total response time was 16:13 for fire and 23:13 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Alta – 2020 Incidents by Time of Day

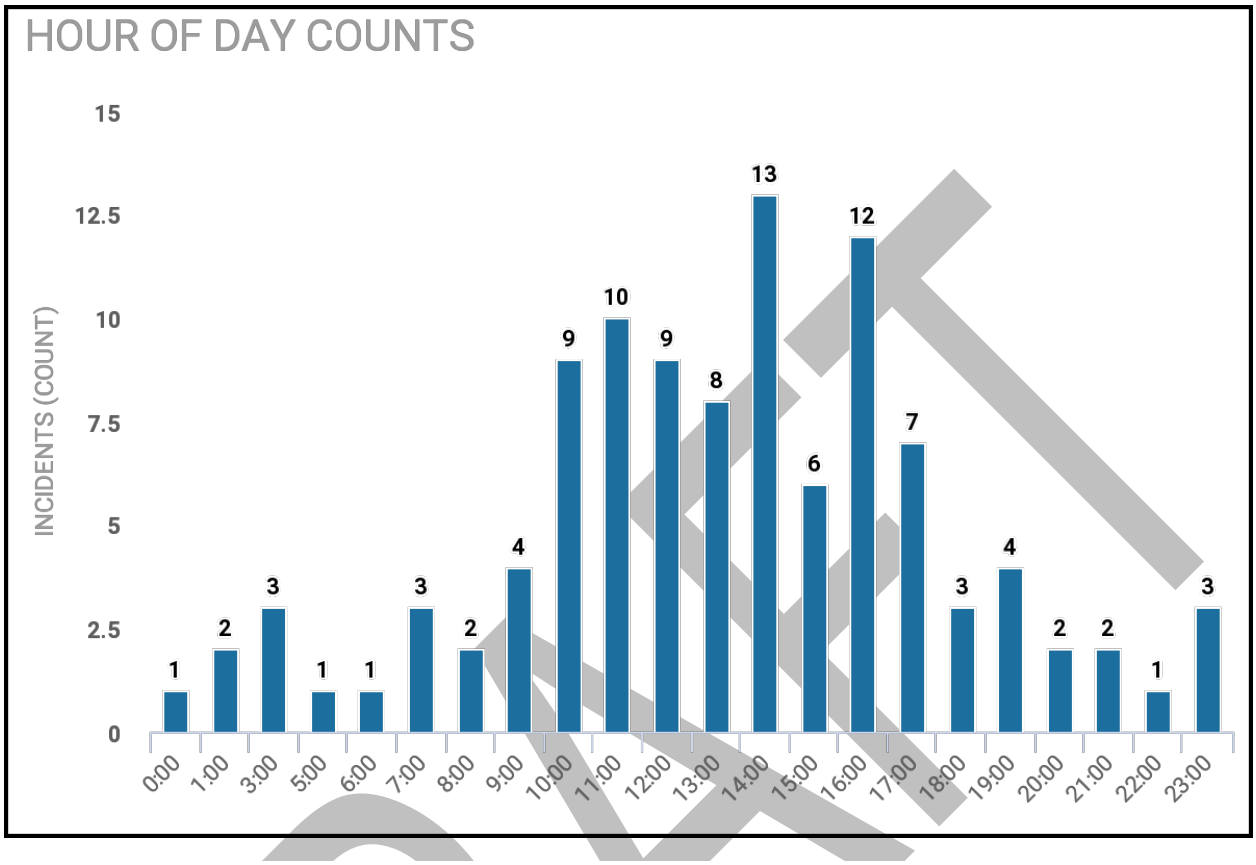


Chart 15 –Alta 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within the Town of Alta for all service calls. This chart illustrates that the greatest demand for service delivery begins at 10:00 AM and decreases by 5:00 PM.

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Alta – 2020 Incidents by Day of Week

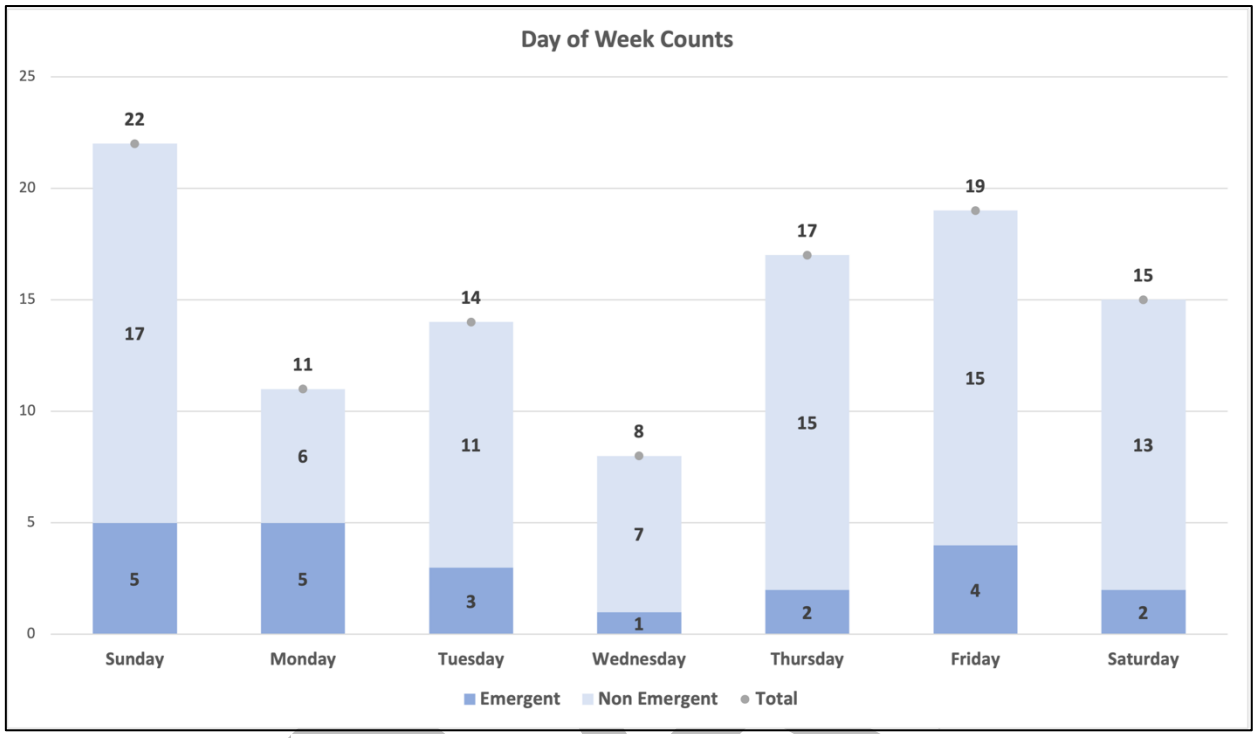


Chart 16 – Alta Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with Sundays having the most overall calls in Alta.

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Alta – 2020 Incidents by Month

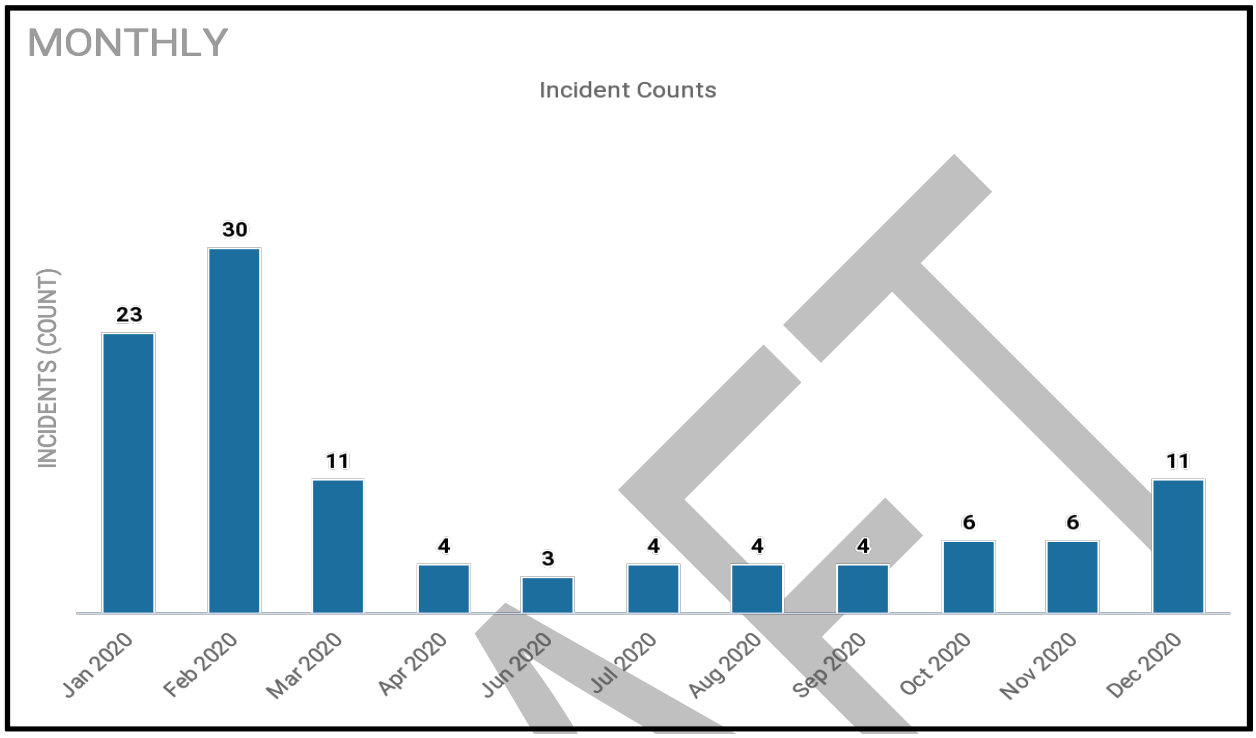


Chart 17 – Alta Incidents by Month

Alta – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	88	116	112
BLS Transports	58	72	76
Scene Release	3	1	16
Public Assistance	1	0	0
EMS Total Calls	149	189	204
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 51 –Alta EMS Calls

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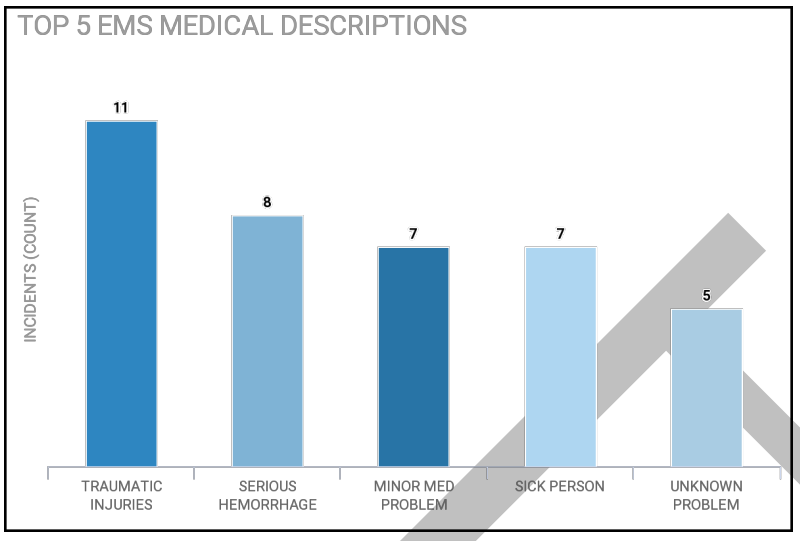


Chart 18 - Top 5 EMS Medical Calls – 2020

Alta – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	1	20%
Vehicle Fire	2	40%
Natural Vegetation Fire	2	40%
Total	5	100%

Table 52 – Alta 2020 Incidents by Dispatch Type

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Alta – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	2	0	0	0	2
Commercial/Industrial	5	5	0	0	10
Educational	0	0	0	0	0
Government	0	0	0	0	0
Healthcare	0	0	0	0	0
Hazardous	Unknown	Unknown	Unknown	Unknown	5*
Storage	1	0	0	0	1
Residential	0	0	0	0	0
Residential – Multi Unit	10	0	2	0	12
High Rise	0	0	2	0	2
Total	18	5	4	0	32

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.
Also, it has been noted that these numbers that came from the Salt Lake County Surveyor's Office may be inaccurate and the Town of Alta is working on identifying the most accurate numbers of occupancy classification and risk categories.

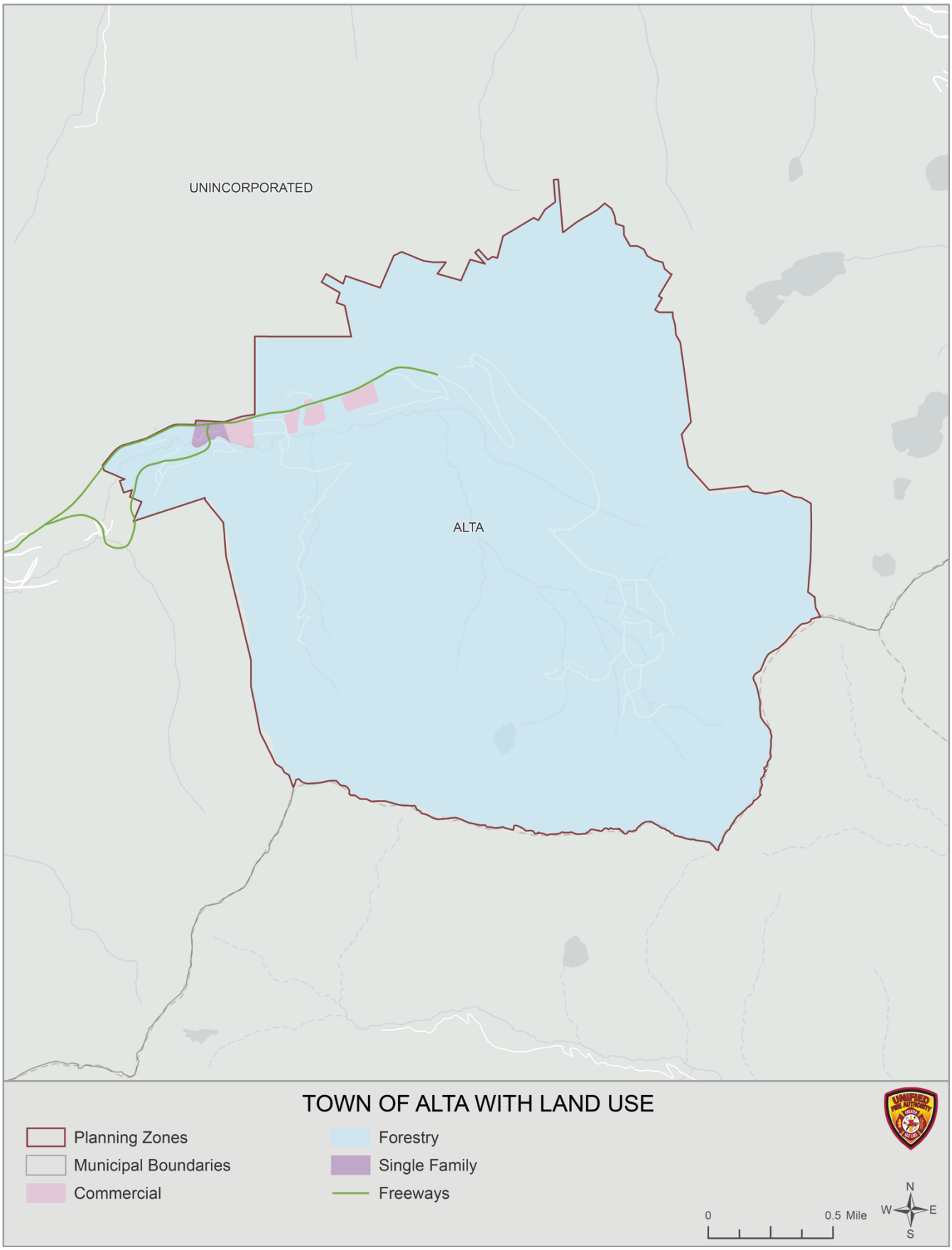
Table 53 – Alta Building Occupancy and Risk Categories

Building Size / Considerations

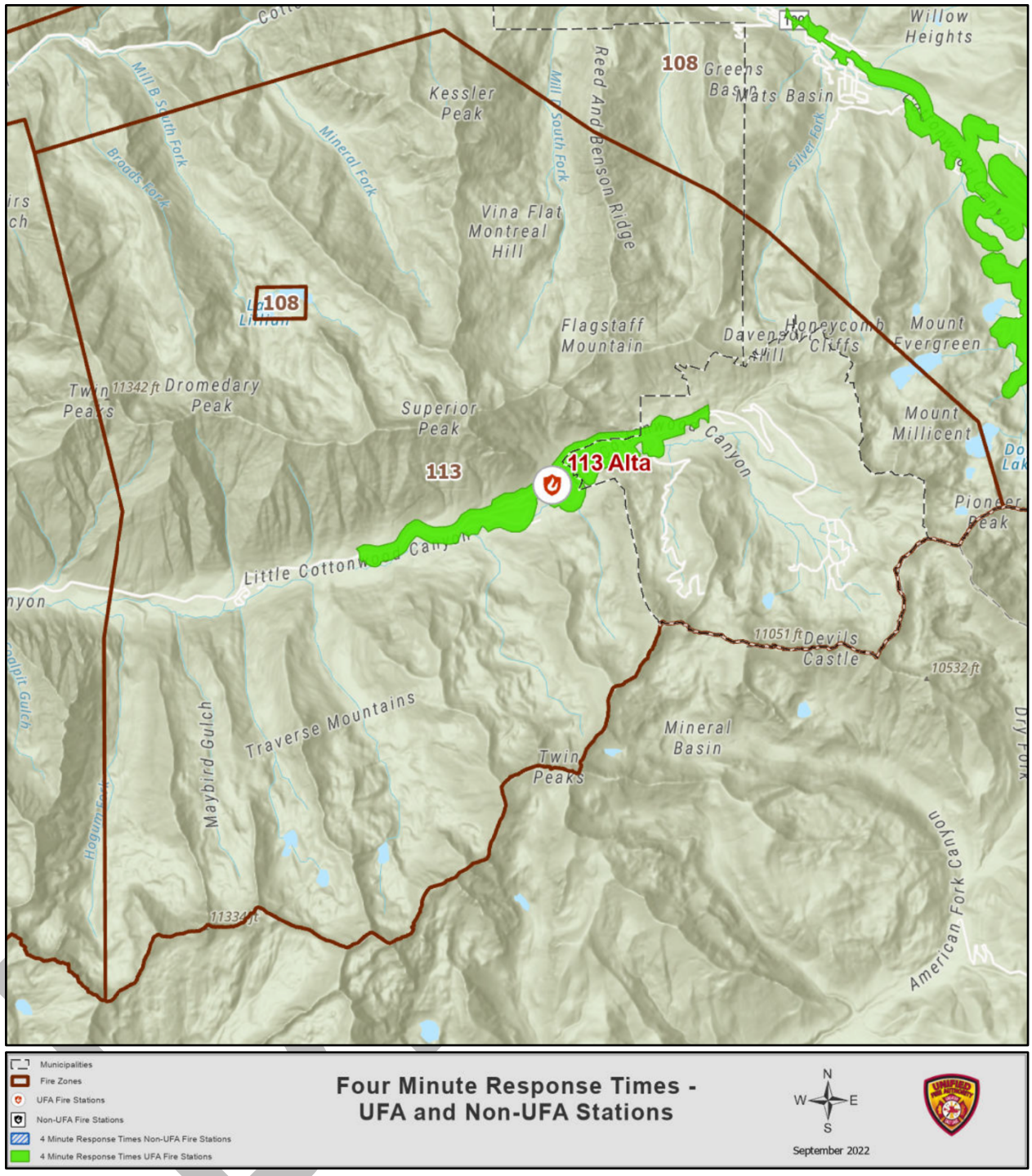
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

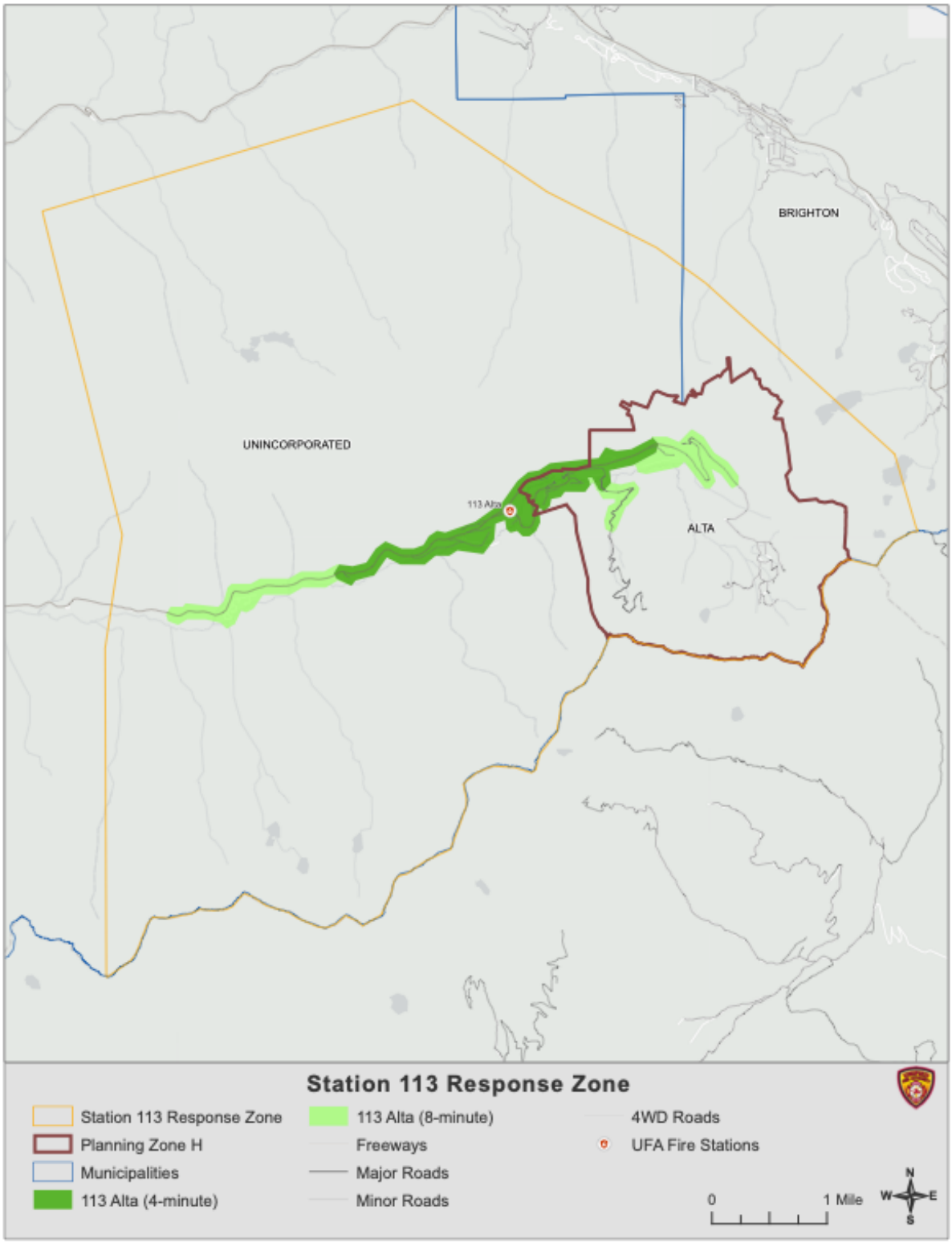
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Map 70 – Alta with Land Use



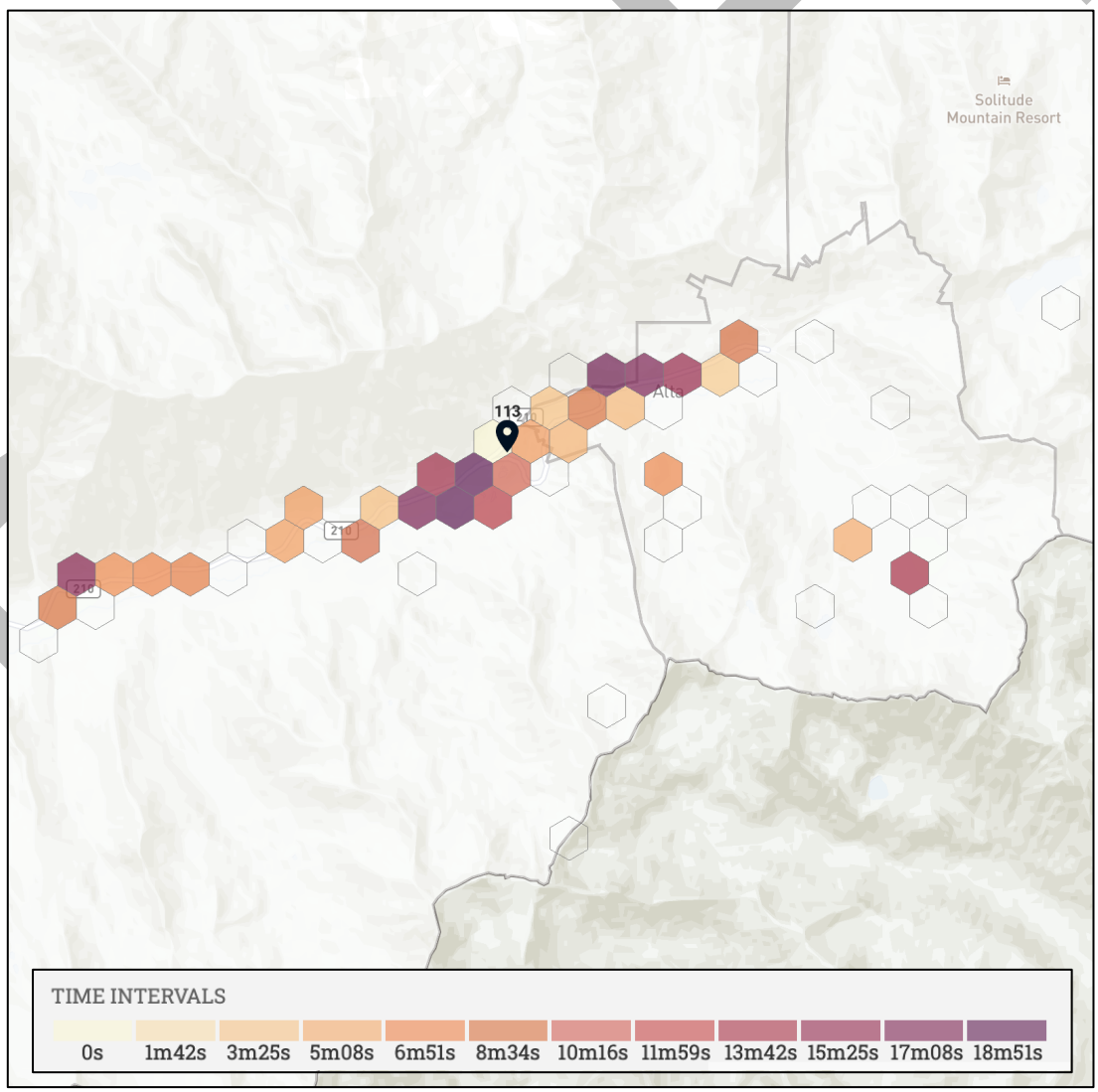
Map 71 - 4-Minute Travel Times, UFA and Aid



Map 72 - Station 113 4- and 8-minute Drive Times

First Arriver Travel Times

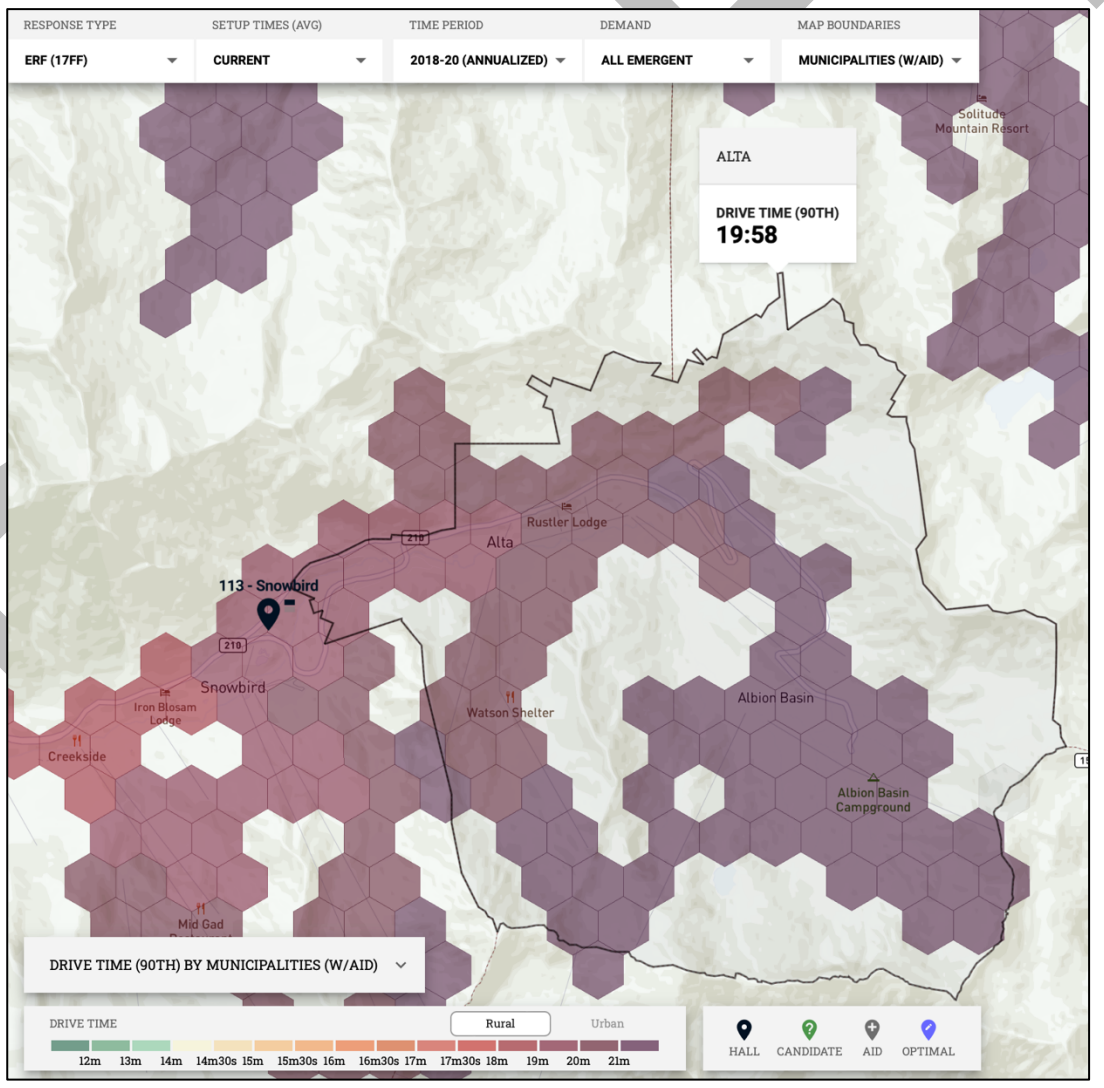
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently within Alta, the 90th percentile drive time is 13:36 for fire and 20:43 for EMS, or 16:11 overall.



Map 73 – Alta Response Times – All Aid

Alta – Residential Fire Effective Response Force (17 FF)

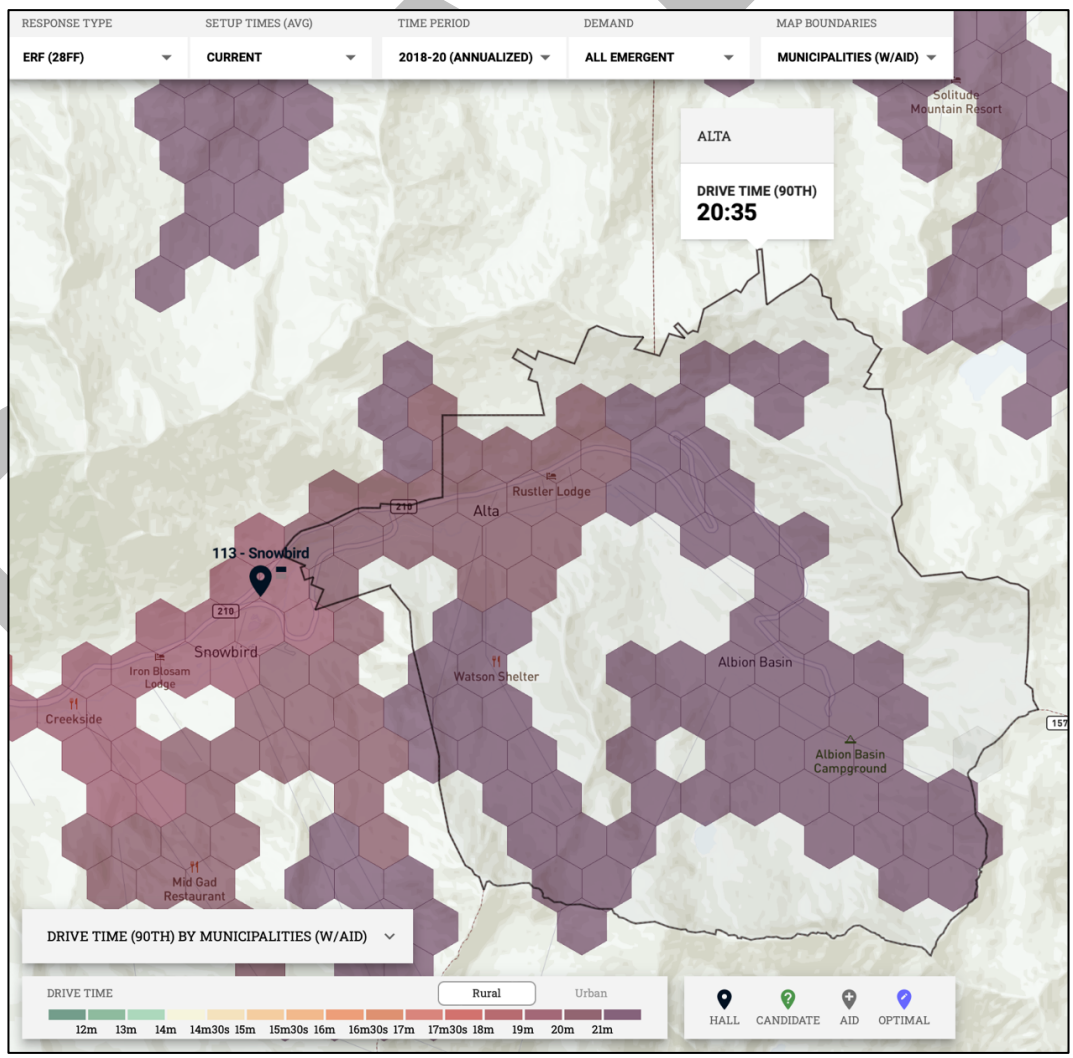
This map demonstrates the projected coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The lighter the color demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 19:58.



Map 74 – Alta Response Times – Residential Fire Effective Response Force (17 ERF)

Alta – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the projected coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The lighter color demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 20:35.



Map 75 – Alta Response Times – Commercial Fire Effective Response Force (28 FF)

Alta Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Low	Low	Low	Low	High	Mod	High	Low	Low	Low	Low	Low

Table 54 – Alta Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

The primary roadway that runs through Alta is State Road 210 which runs east/west from Wasatch Boulevard. There are 0 linear miles of Interstate/US Highway, 2.17 linear miles of State Highways, and 12.2 total linear miles of roadway. Alta is in the low-risk category for road infrastructure.

Infrastructure – Water

There is one water district within the Town of Alta, the Salt Lake County Service Area #3.

Infrastructure – Dams

There are two identified dams within the Town of Alta. Alta is in the low-risk category for dam infrastructure.

Natural Hazards

Within the Town of Alta, there are high concerns with avalanche areas, placing it in the high-risk category for avalanche. There are no identified fault lines that run through the city (see Map 8). Alta is in the low-risk category for liquefaction and low-risk category for

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fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings. Within the Town of Alta, there are an estimated 3 URM's, which constitutes about 0.01% of the overall URM's within UFA's response areas. Alta is in the moderate-risk category for unreinforced masonry.

Wildland Urban Interface

There is high risk of urban interface fires within the Town of Alta and within Little Cottonwood Canyon. One of the primary hazards is the lack of egress routes going out of the canyon. Alta is in the high-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are two identified HazMat/Tier II Sites within the Town of Alta, which is in the low-risk category.

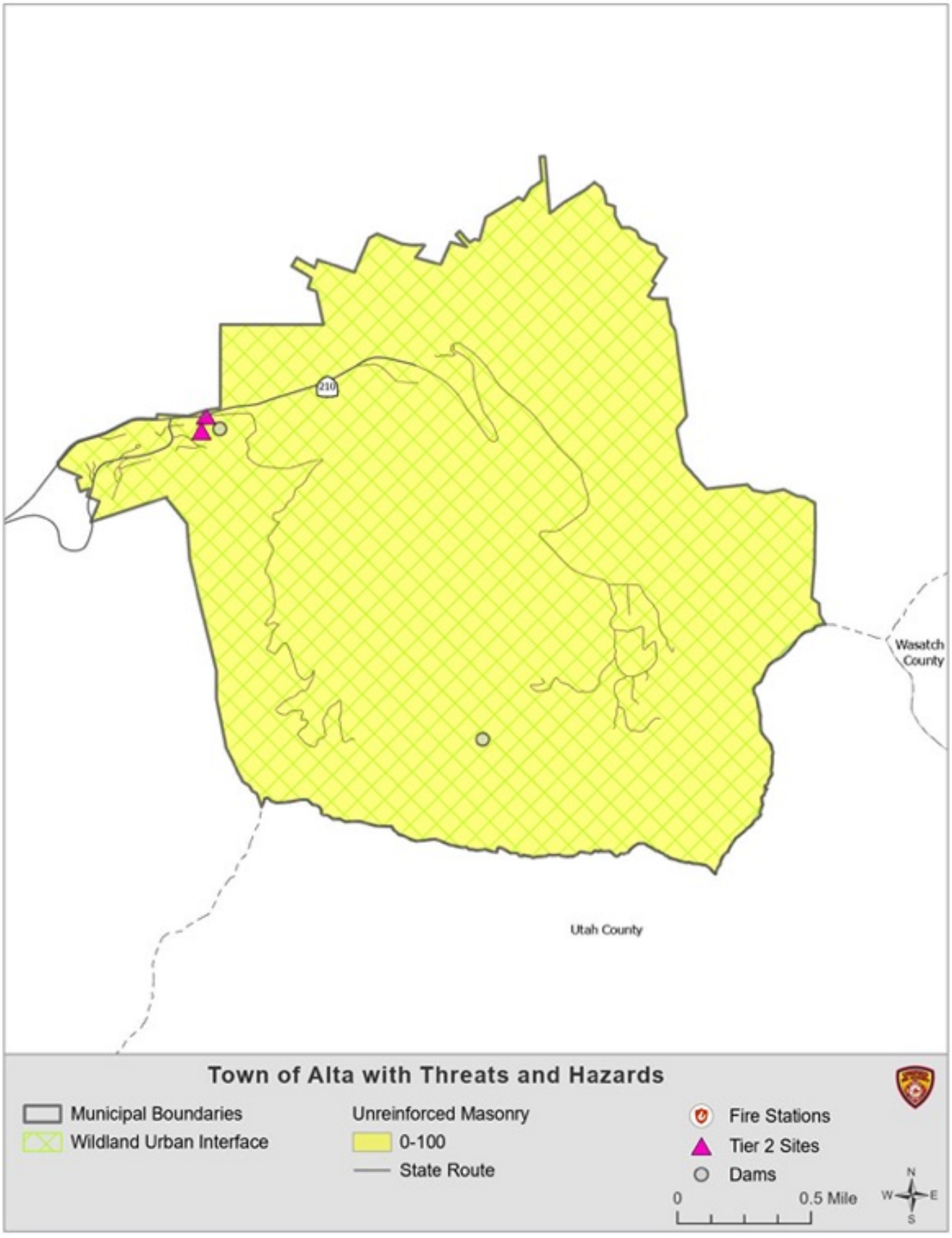
Hospitals

The Town of Alta has no hospitals. This places Alta in the low-risk category for hospitals.

Schools

The Town of Alta has a one-room multi-grade Elementary School housed in the Goldminer's Daughter Lodge. This places Alta in the low-risk category for schools.

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Map 76 – Emigration Township with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $3,012,500.00 of property loss and a total estimate of $101,600.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Town of Brighton

Community Risk Assessment



Photo Courtesy of: KUTV

Town of Brighton Planning Zone

UFA has one station within the Town of Brighton Planning Zone covering a total of 16 square miles with a population of 432 and responded to 225 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Brighton	432	0.10%	16	27	Rural

– Of Note…

Brighton incorporated as a town Jan 1, 2020. Because of this, the population estimates were previously under the Unincorporated Salt Lake County population totals and not able to be separated out prior to Jan 1, 2020.

Brighton Station Information

Station 108 information:

- Owner – UFSA
- Opened – 2012
- Address – 7688 S. Big Cottonwood Canyon
- Staffing and Apparatus –
  - Type 1/3, ME 108 (3 persons)
  - MA 108 (cross-staffed)
  - Type 6, Brush Truck (cross-staffed)



Image 4 – Brighton Station 108

Surrounding UFA and Automatic/Mutual Aid Response Stations

Due to the rural location of Big Cottonwood Canyon as well as the long response times, there are currently no UFA stations, automatic or mutual aid stations within an eight-minute response time.

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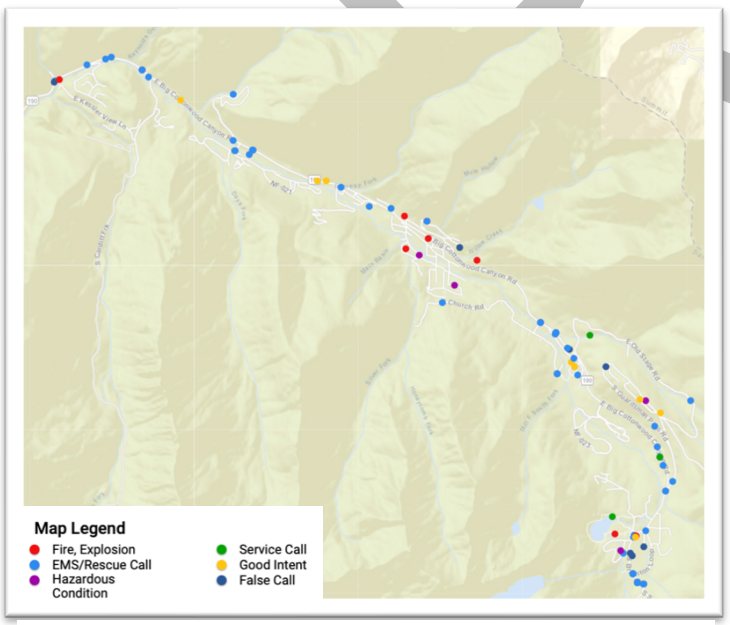
Brighton – Incidents by Dispatch Type

The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

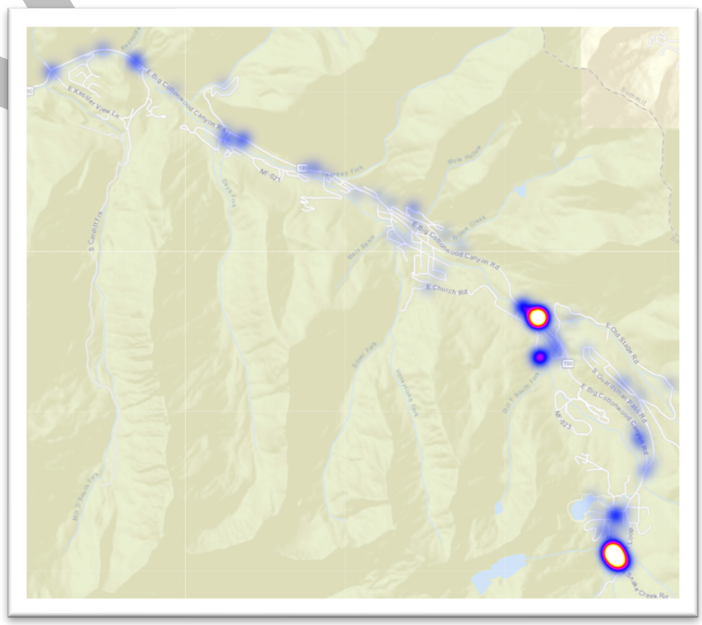
	CY 2020	CY 2019	CY 2018
Fire Suppression	8	3	3
EMS	145	163	178
Hazardous Materials	10	7	3
Service Calls	6	3	3
Good Intent	48	58	39
False Calls	8	14	12
Other (Misc., Flood, Overpressure)	0	0	0
Total	225	248	238
Cancelled	30	33	30
Overall Total	255	281	268

Table 55 – Brighton Call Types

Brighton – 2020 Incidents and Heat Map



Map 78 - Brighton Incident Calls by Type



Map 77 – Brighton Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

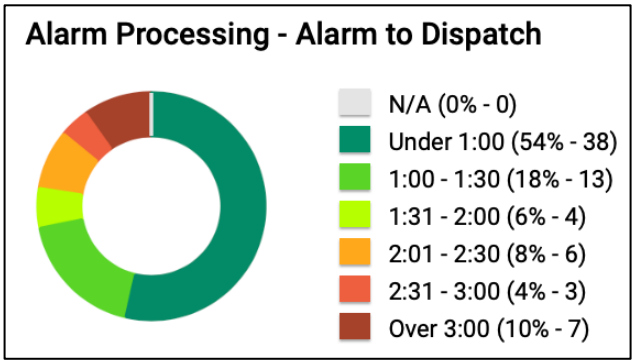
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

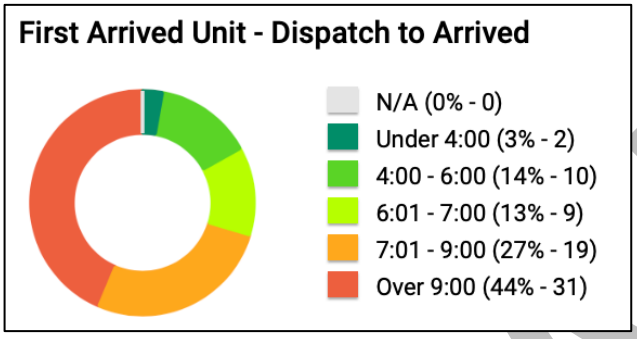
– Of Note…

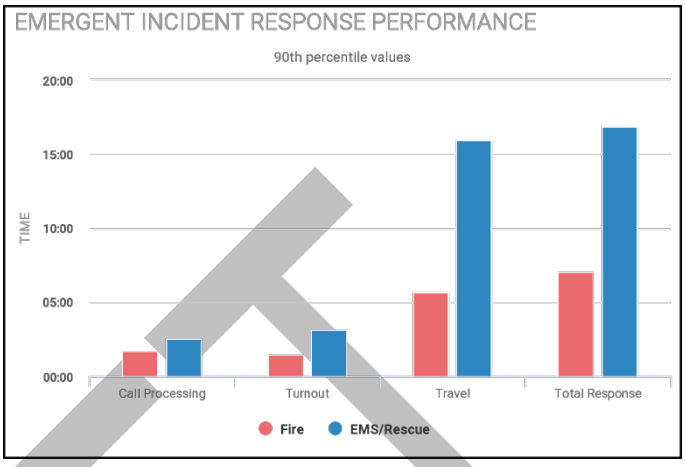
NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

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Brighton – 2020 Dispatch and Response Times





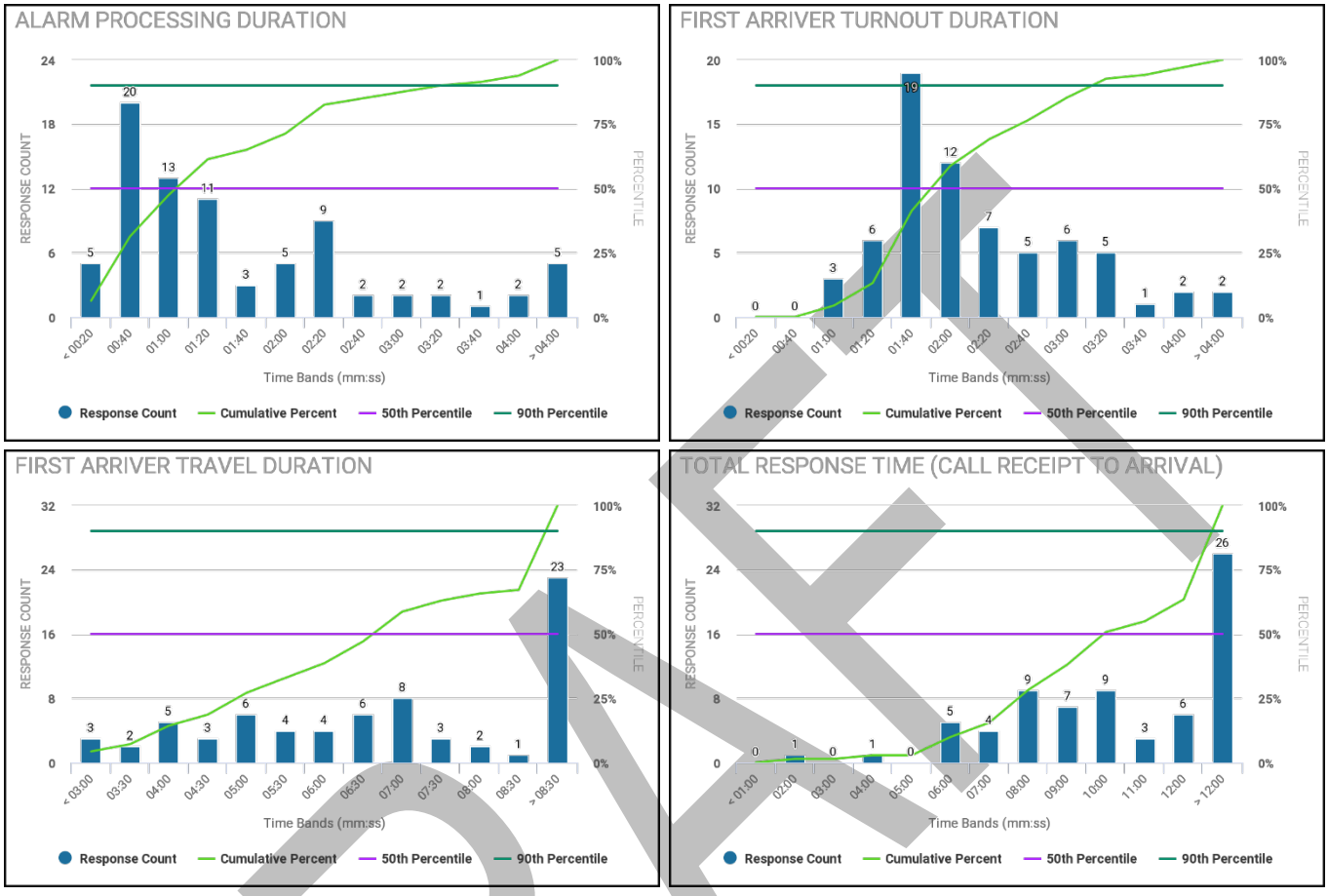


Rural	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Brighton	2:50	3:11	18:40	28:04	2:10	3:09	17:24	20:20
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 56 – Brighton 2020 Emergent Response Times, 90th percentile values

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Brighton – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Brighton (90th percentile). The alarm processing for fire was 2:50 and 2:10 for EMS; turnout time was 3:11 for fire responses and 3:09 for EMS responses; travel time was 18:40 for fire responses and 17:24 for EMS. The 90th percentile total response time was 28:04 for fire and 20:20 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Brighton – 2020 Incidents by Time of Day

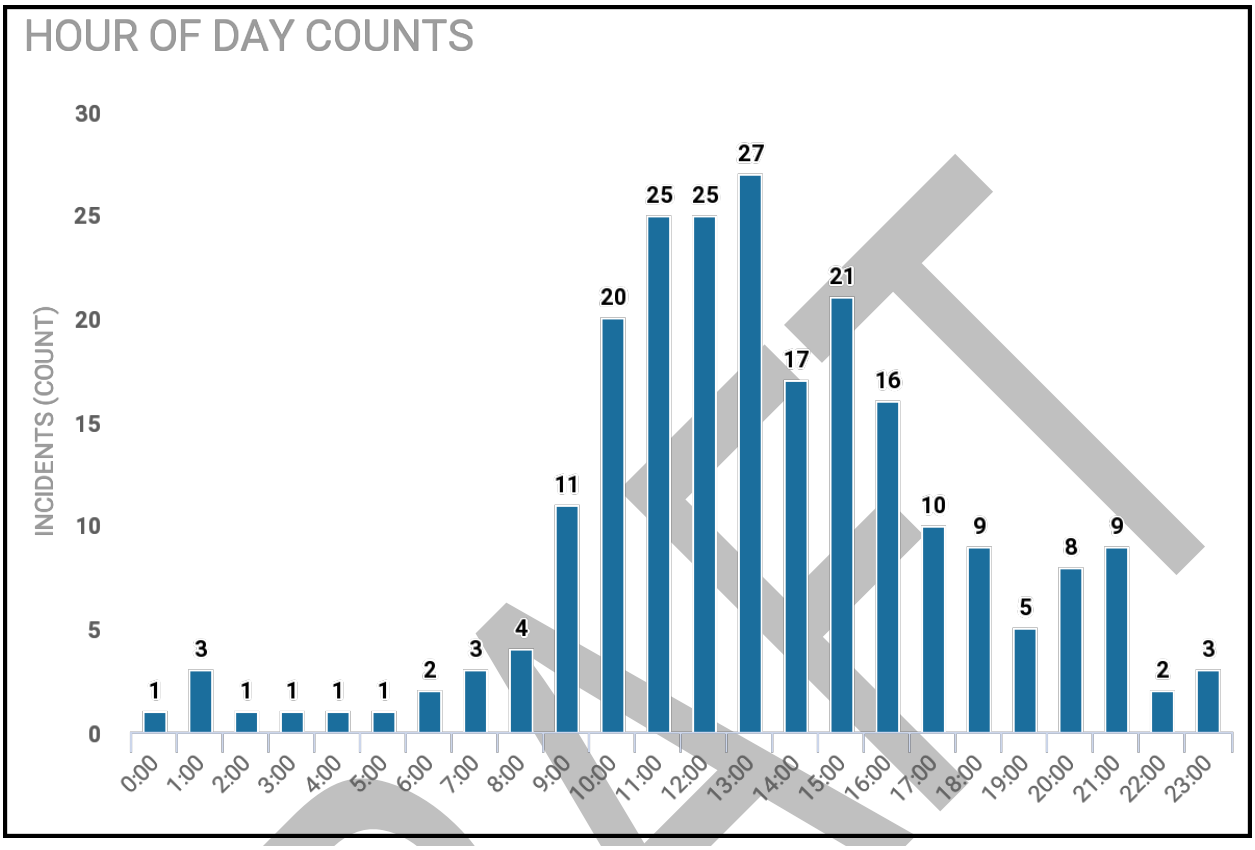


Chart 19 –Brighton 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Brighton for all service calls. This chart illustrates that the greatest demand for service delivery begins at 9:00 AM and starts to decrease at 4:00 PM.

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Brighton – 2020 Incidents by Day of Week

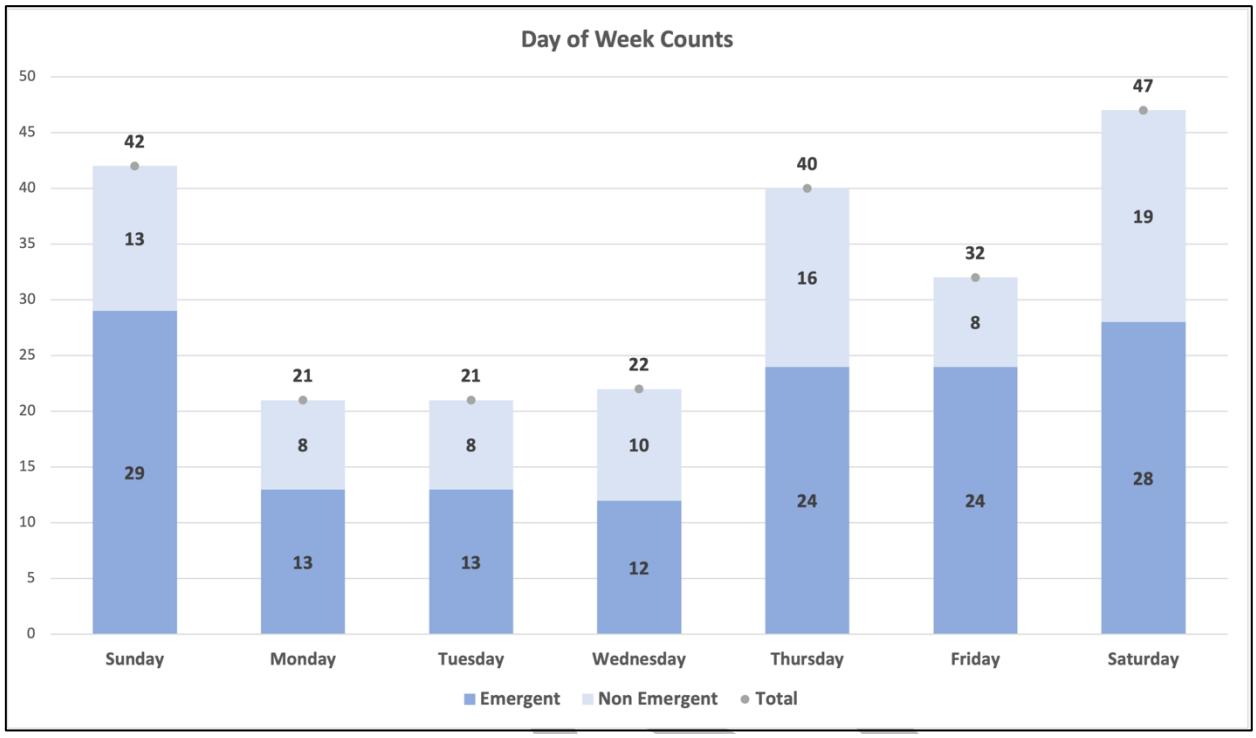


Chart 20 – Brighton Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls occurring over the weekend as well as the peak volume for all calls in Brighton occurring on Saturday.

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Brighton – 2020 Incidents by Month

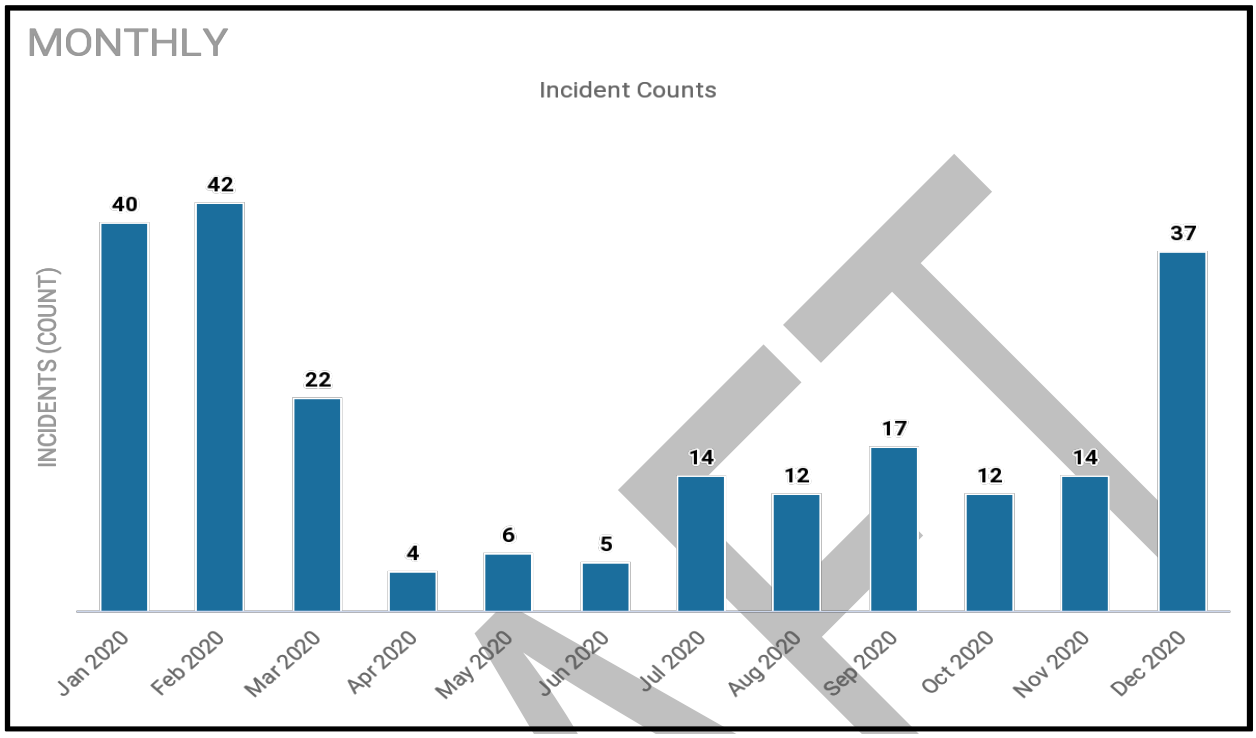


Chart 21 – Brighton Incidents by Month

This chart demonstrates the call volume based on the month, showing a large increase during the winter months within Brighton.

Brighton – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	87	95	95
BLS Transports	70	53	51
Scene Release	10	5	7
Public Assistance	0	0	0
EMS Total Calls	167	153	153
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 57 –Brighton EMS Calls

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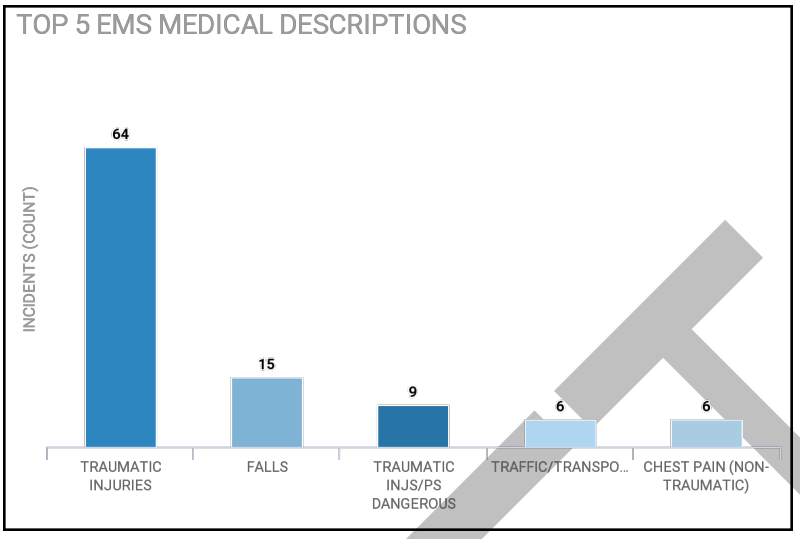


Chart 22 - Top 5 EMS Medical Calls - 2020

Brighton – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Natural Vegetation Fire	2	25%
Outside Rubbish Fire	3	38%
Special Outside Fire	1	13%
Fire, Other	2	25%
Total	8	100%

Table 58 – Brighton 2020 Incidents by Dispatch Type

Brighton – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	2	0	0	0	2
Commercial/Industrial	1	1	0	0	2
Educational	0	0	0	0	0
Government	1	0	0	0	1
Healthcare	0	0	0	0	0
Hazardous	Unknown	Unknown	Unknown	Unknown	2*
Storage	0	0	0	0	0
Residential	3	0	0	0	3
Residential – Multi Unit	2	0	2	1	5
High Rise	N/A	N/A	0	1	1
Total	9	1	2	2	16

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

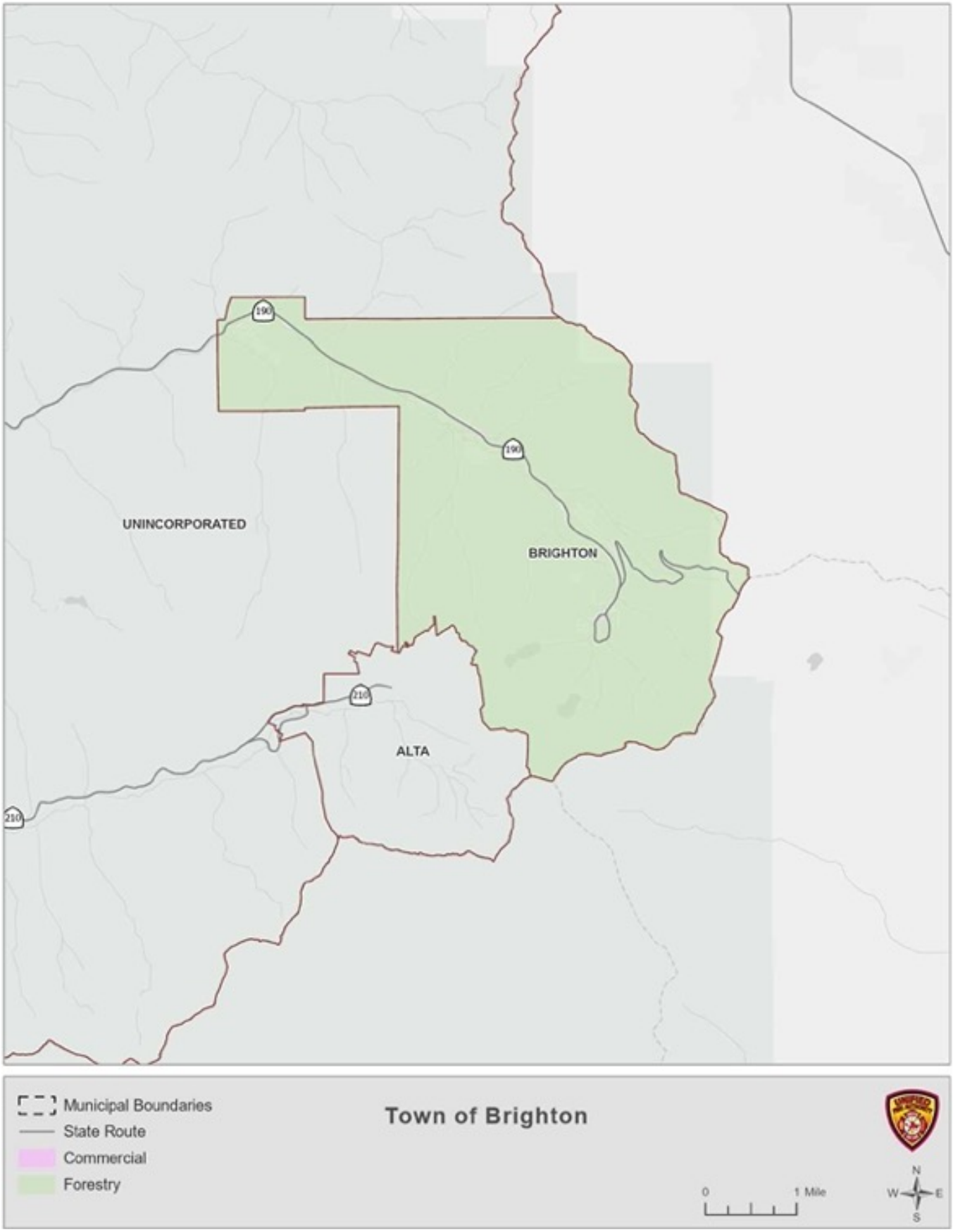
Table 59 – Brighton Building Occupancy and Risk Categories

Building Size / Considerations

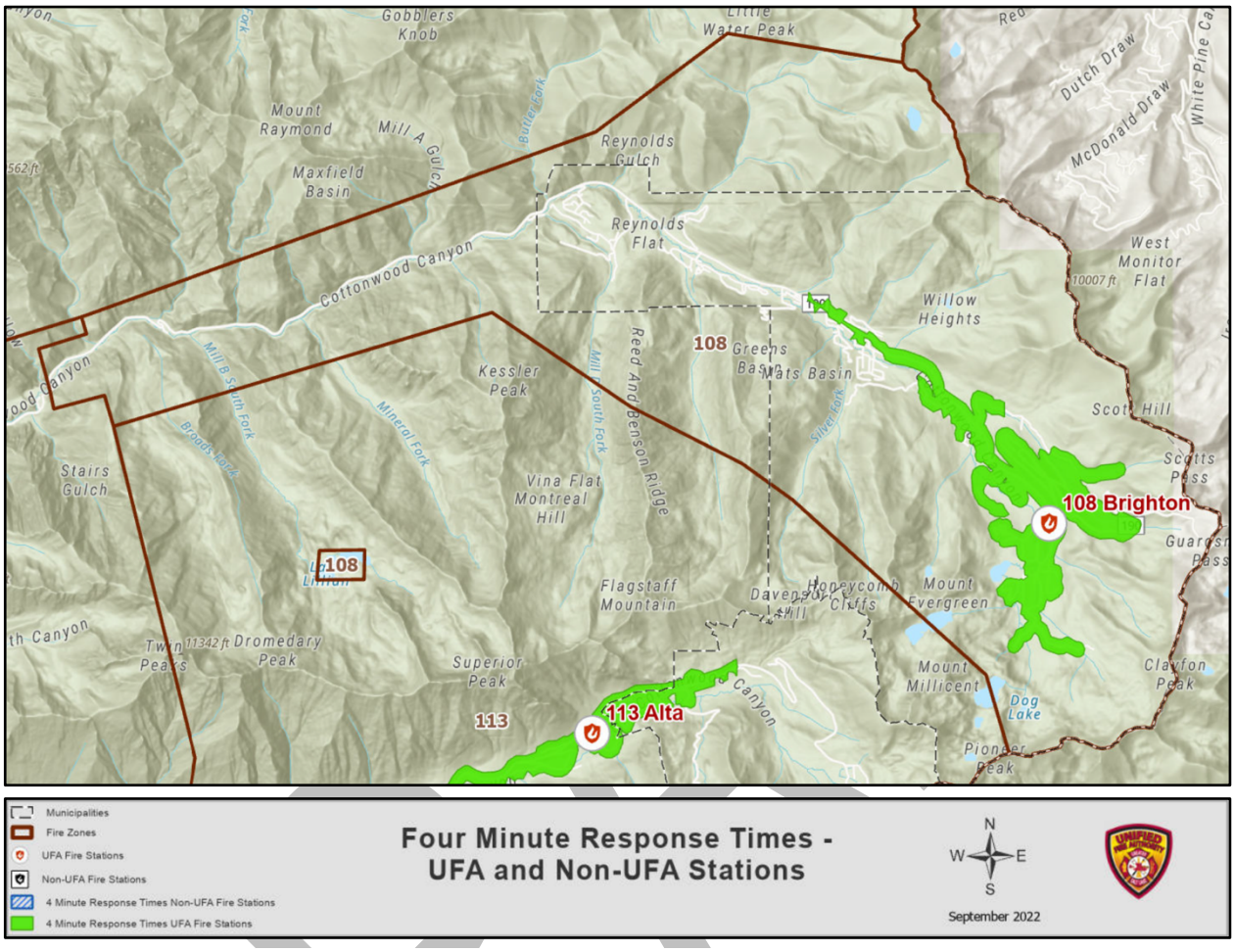
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

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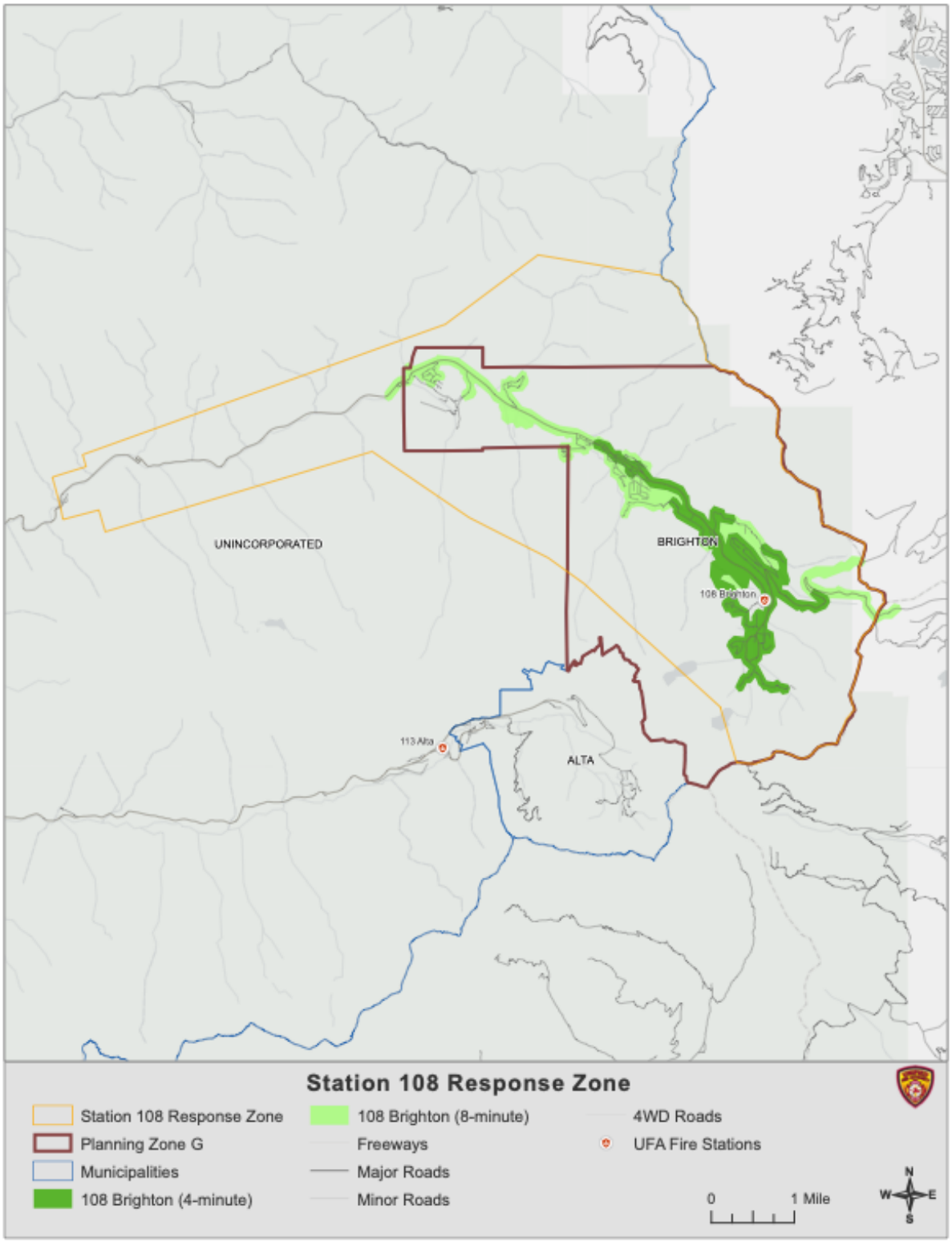


Map 79 – Brighton with Land Use



Map 80 - 4-Minute Travel Time, UFA and Aid

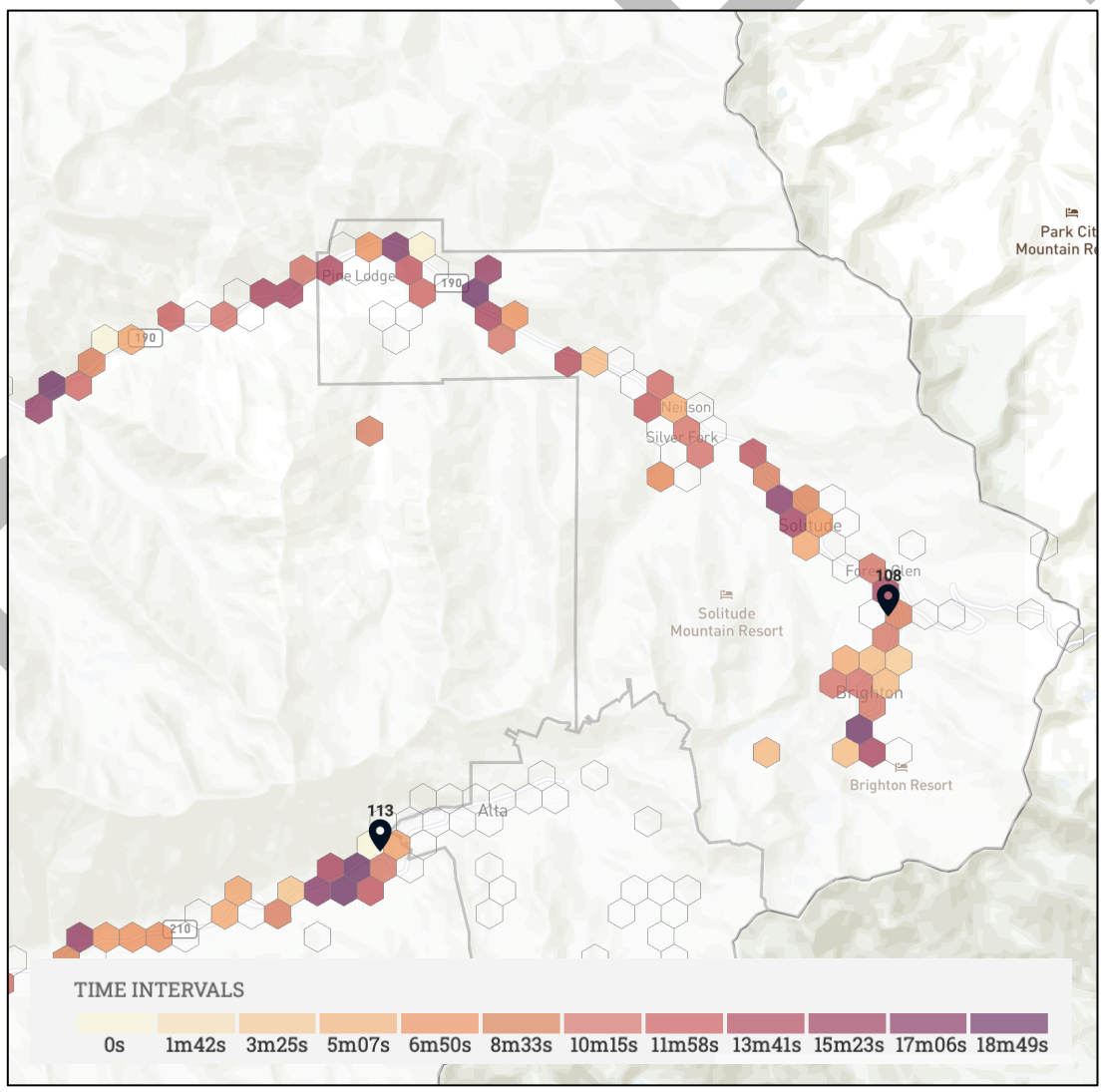
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Map 81 - Station 108 4- and 8-Minute Travel Times

Brighton – First Arriver Travel Times

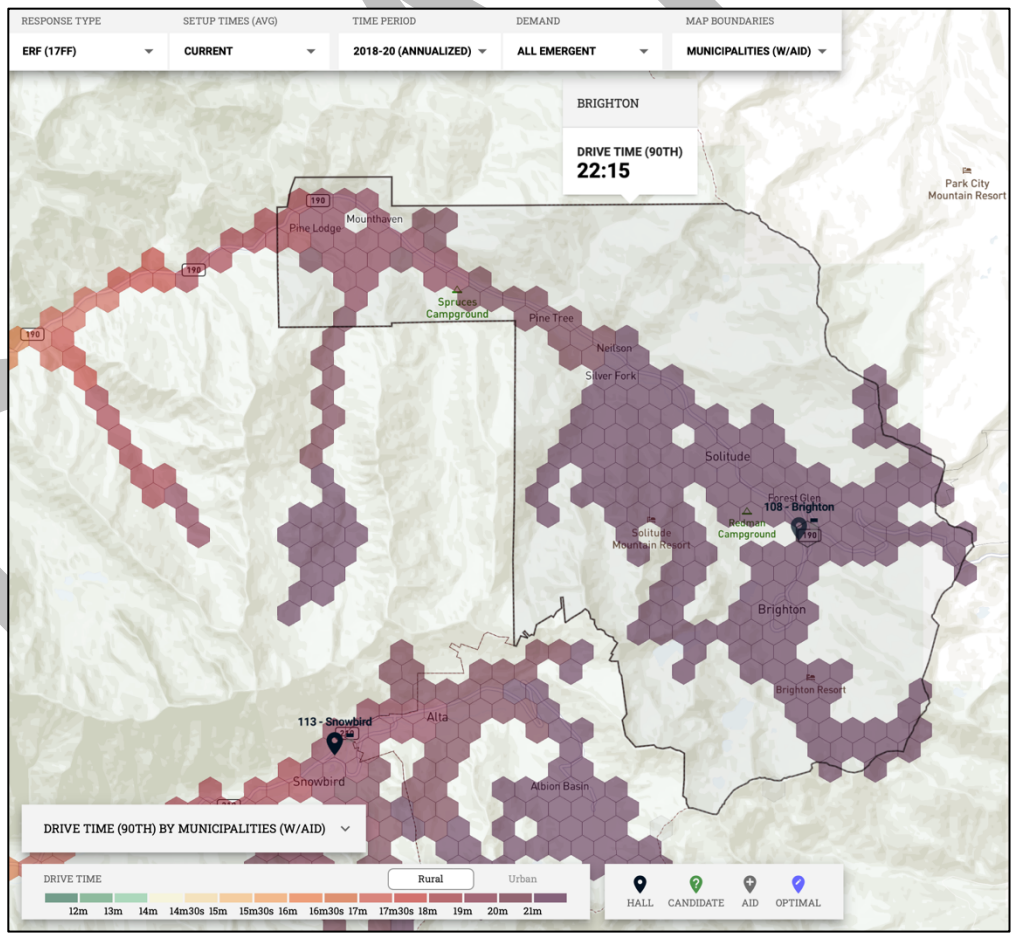
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently within Brighton, the 90th percentile drive time is 18:40 for fire and 17:24 for EMS.



Map 82 – Brighton Response Times – All Aid

Brighton – Residential Fire Effective Response Force (17 FF)

This map demonstrates the projected coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 22:15.

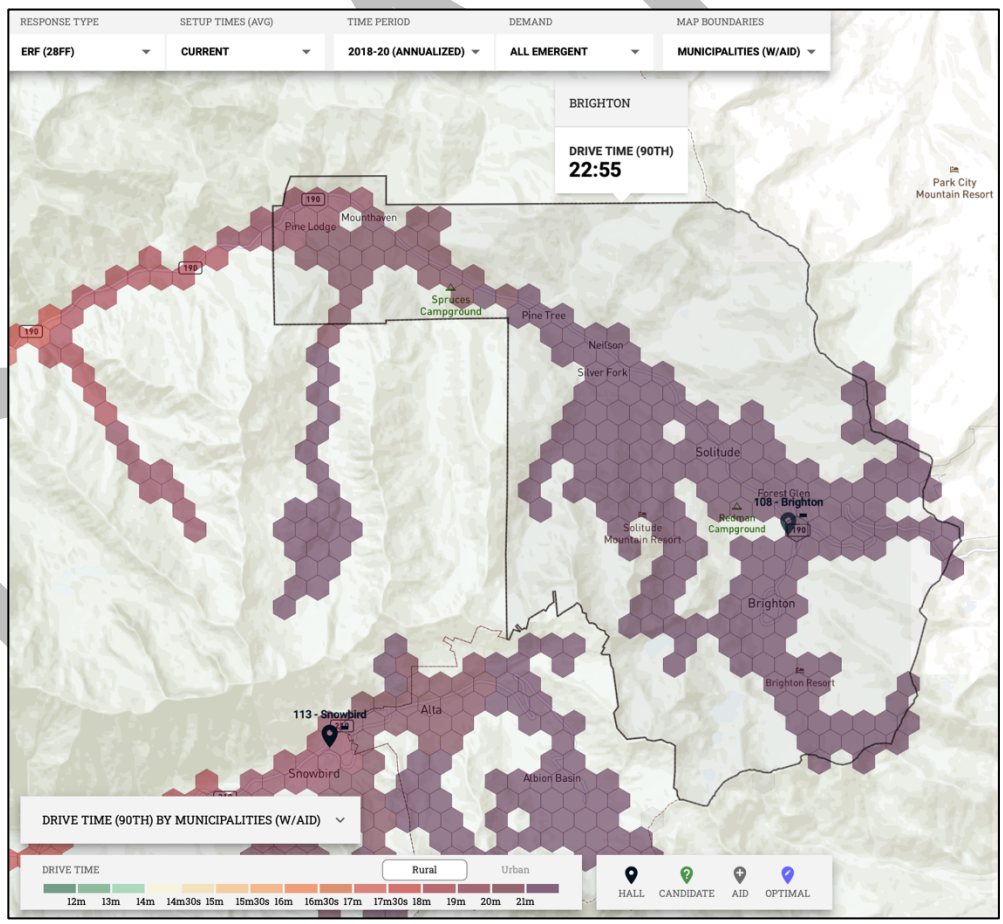


Map 83 – Brighton Response Times – Residential Fire Effective Response Force (17 ERF)

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Brighton – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the projected coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 22:55.



Map 84 – Brighton Response Times – Commercial Fire Effective Response Force (28 FF)

Brighton Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Low	Low	Low	Low	High	Low	High	Low	Low	Low	Low	Low

Table 60 – Brighton Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

The primary roadway that runs to the Town of Brighton is State Road 190 which runs east/west from Wasatch Boulevard. There are 0 linear miles of Interstate/US Highway, 9.97 linear miles of State Highways, and 37.6 total linear miles of roadway. UTA also runs bus routes to Brighton. Brighton is in the low-risk category for road infrastructure.

Infrastructure – Water

There is no independent water district within Brighton, however there are twenty-five separate water purveyors within Brighton.

Infrastructure – Dams

There are three identified dams within Brighton. Brighton is in the low-risk category for dam infrastructure.

Natural Hazards

Within Brighton, there are high concerns with avalanche areas and over 140 avalanche slide pathways in Big Cottonwood Canyon. Brighton is in the high-risk category for

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avalanche. There are no identified fault lines that run through the city (see Map 8). Brighton is in the low-risk category for liquefaction and low-risk category for fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings. Within Brighton, there are an estimated 20 URM's, which constitutes about 0.08% of the overall URM's within UFA's response areas. Brighton is in the low-risk category for unreinforced masonry.

Wildland Urban Interface

There is high risk of urban interface fires within Brighton and within Big Cottonwood Canyon. One of the primary hazards is the lack of egress routes going out of the canyon. Brighton is in the high-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There is one identified HazMat/Tier II Sites within Brighton, which is in the moderate-risk category.

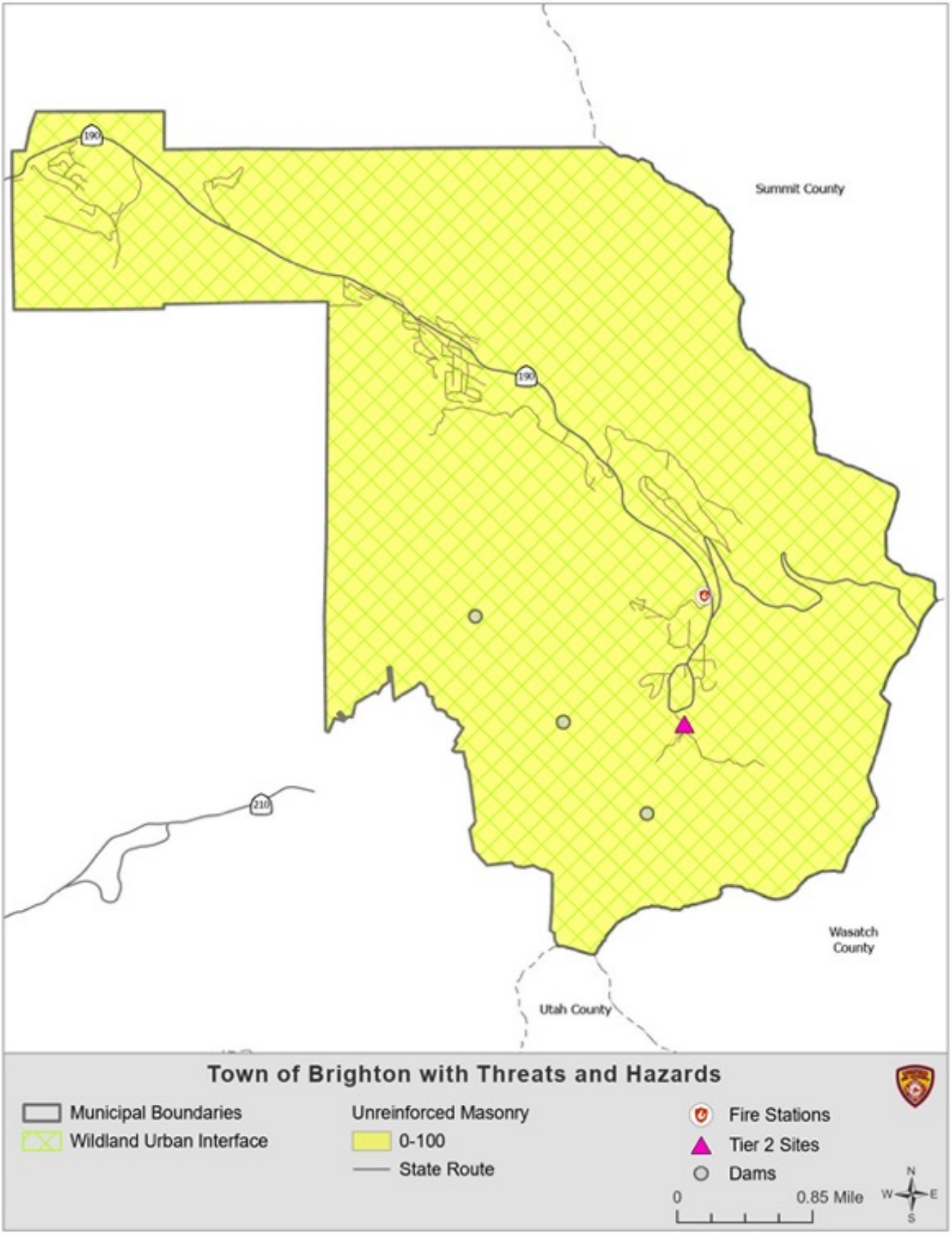
Hospitals

Brighton has no hospitals. This places Brighton in the low-risk category for hospitals.

Schools

Brighton has zero elementary schools, zero middle schools, and zero high school within city boundaries, which places it in the low-risk category.

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Map 85 – Brighton with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $18,000.00 of property loss and a total estimate of $1,800.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Camp Williams

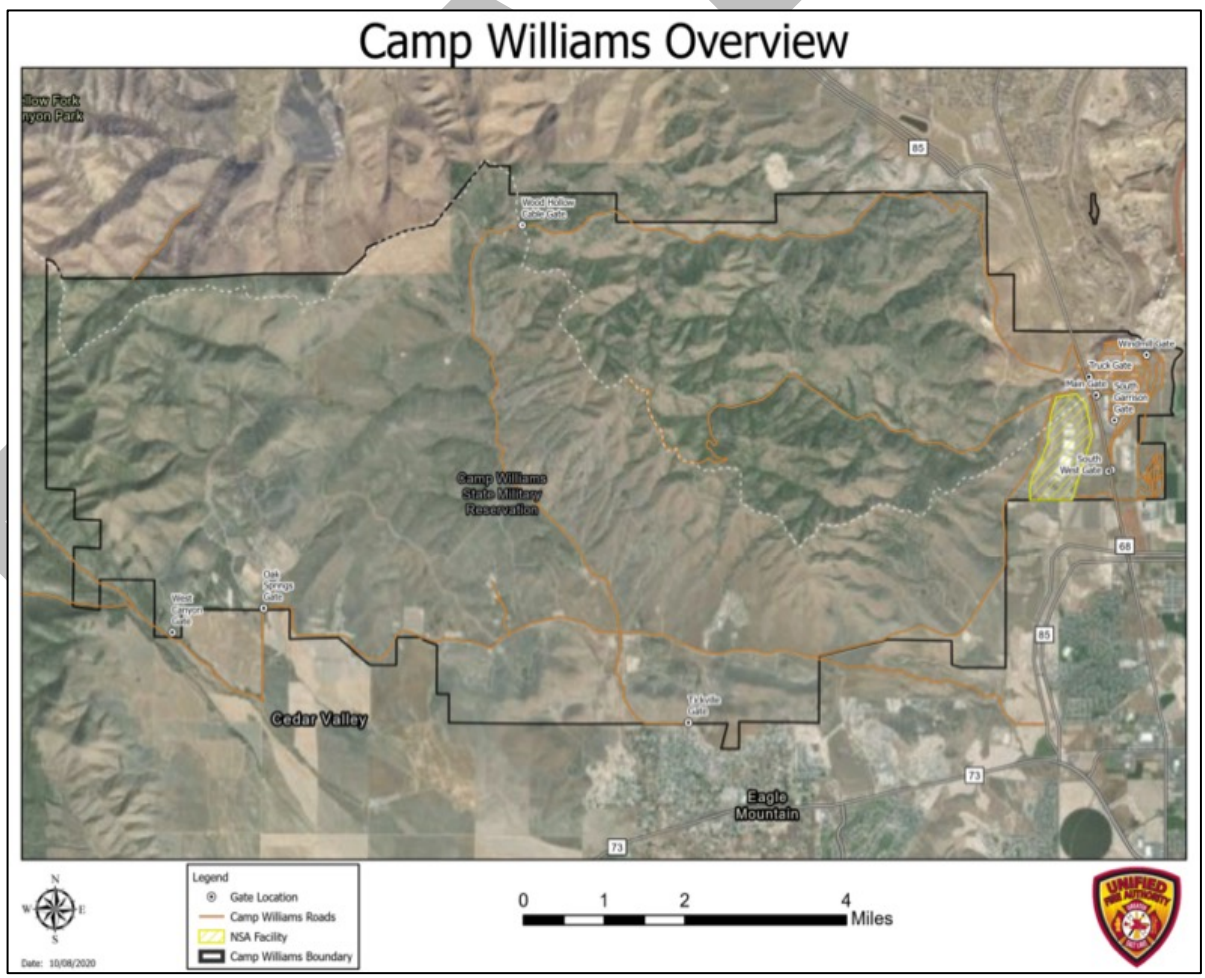
Risk Assessment



Photo Courtesy of: UTNG

Camp Williams Planning Zone

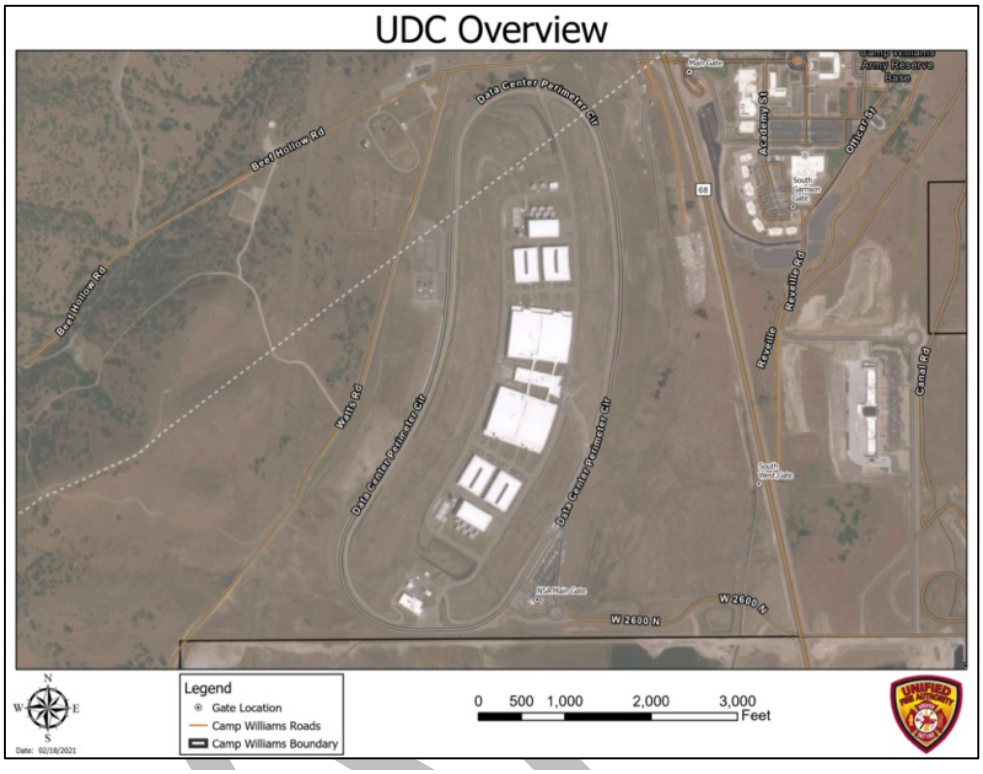
UFA has one wildland response station within Camp Williams (CW). Camp Williams is a military instillation for the Utah National Guard that splits across both Salt Lake and Utah Counties and is over 47 square miles in area. CW contracted with UFA after a large fire started on CW property and extended into the City of Herriman. Station 127 is located at 17800 Camp Williams Road, Camp Williams and houses the Camp Williams Fire Management Officer (FMO), the Assistant FMO (AFMO) and a seasonal handcrew. Camp Williams is located in Battalion 12. CW generally works closely with CW Range Control for any on-base wildland fire responses. Camp Williams also includes administration buildings, mess halls, classrooms, and a complex of warehouses, workshops, and maintenance facilities and is a national training center that hosts over 25 active munition ranges.



Map 86 - Camp Williams Overview

Utah Data Center Overview

The Utah Data Center is a one million square-foot building which contains a 100,000 square foot Tier III data center. The remaining 900,000 square feet is used for technical support and administrative space. The entire complex has over 20 buildings and includes water treatment facilities, chiller plants, electric substation, fire pump house, warehouse, vehicle inspection facility, visitor control center, and 60 diesel-fueled emergency standby generators and fuel facility for a three-day power backup capability. This occupancy poses significant response risks and includes fire, medical, hazmat and technical rescue potential.



Map 87 - Utah Data Center Overview

UFA has one station within the Camp Williams Planning Zone covering a total of 47 square miles with a transient population due to it being a military installation. UFA responded to 29 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Camp Williams	Transient (Military Installation)	0	47	N/A	Wilderness

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Camp Williams Station Information

Station 127 information:

- Owner – UFSA
- Address – 17800 Camp Williams Road, Building 2200
- Staffing and Apparatus –
  - Wildland Fire Management Officer (1 person, Full Time)
  - Assistant Fire Management Officer (1 person, Full Time)
  - Type 3 Engine (4 handed, seasonal)
  - Type 4 Engine (4 handed, seasonal)
  - Type 6 Engine (2 handed, seasonal)
  - Type 1 Water Tender (cross-staffed)
  - Type 1 Tactical Water Tender (cross-staffed)
  - Type 6 Engine (2 handed – fuels crew)
  - Crew Carrier (6 handed – fuels crew)



Image 5 – Camp Williams Station 127

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Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Camp Williams are:

- UFA Station 251 (Eagle Mountain), with a three-person medic engine and a jump medic ambulance
- UFA Station 252 (Eagle Mountain), with a four-person medic ladder and a two-person peak load medic ambulance
- Bluffdale Station 91, with a two-person medic engine and a two-person medic ambulance
- Bluffdale Station 92, with a two-person medic engine and a two-person medic ambulance
- Saratoga Springs Station 261, with a two-person ladder and a two-person medic ambulance

Camp Williams – Incidents by Dispatch Type Found

The following data is what the initial dispatch type was. When fire companies arrive on scene, the final situation found could be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	3	6	1
WL Fire Suppression	6	7	5
EMS	6	0	5
Hazardous Materials	0	1	0
Service Calls	0	0	0
Good Intent	14	6	12
False Calls	0	0	1
Other (Misc., Flood, Overpressure)	0	0	0
Total	29	20	24
Cancelled	17	4	11
Overall Total	46	24	35

Table 61 – Camp Williams Call Types

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NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

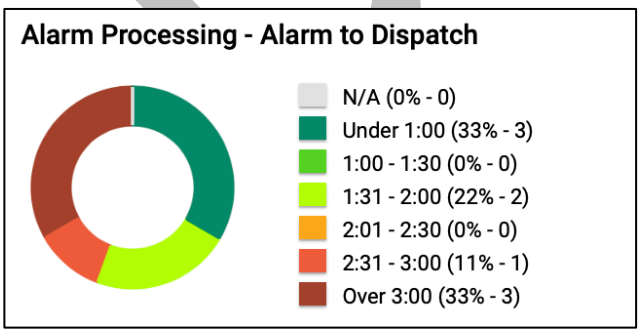
If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

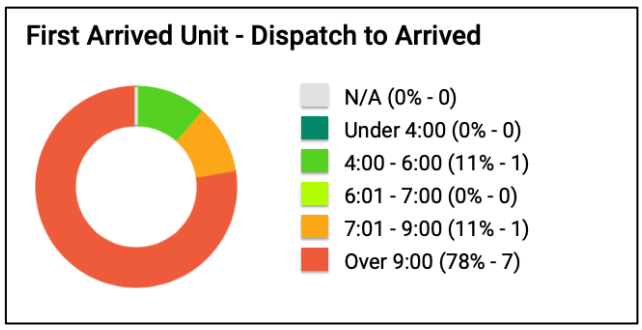
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

Camp Williams – 2020 Dispatch and Response Times





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Camp Williams – 2020 Total Response Time

Rural	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Camp Williams	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 62 – Camp Williams 2020 Response Times, 90th percentile values

Of note: There were not enough incidents within VECC to identify 90th percentile times. Most of Camp Williams' call volumes are split between calls to the Utah Data Center and Wildland incidents out on Camp Williams property.

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Camp Williams – 2020 Incidents by Time of Day

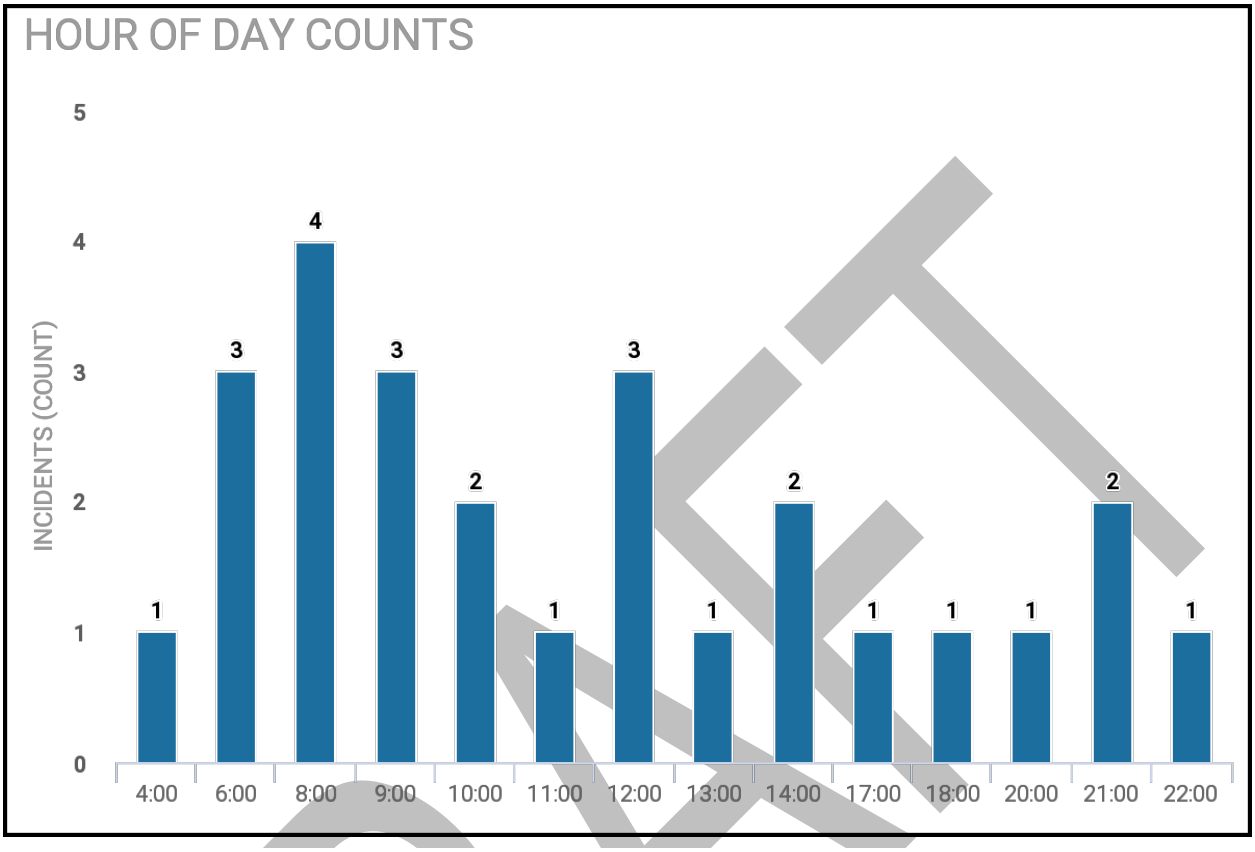


Chart 23 –Brighton 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Camp Williams for all service calls. This chart illustrates that the greatest demand for service delivery is at 8:00 AM and is steady throughout the day.

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Camp Williams – 2020 Incidents by Day of Week

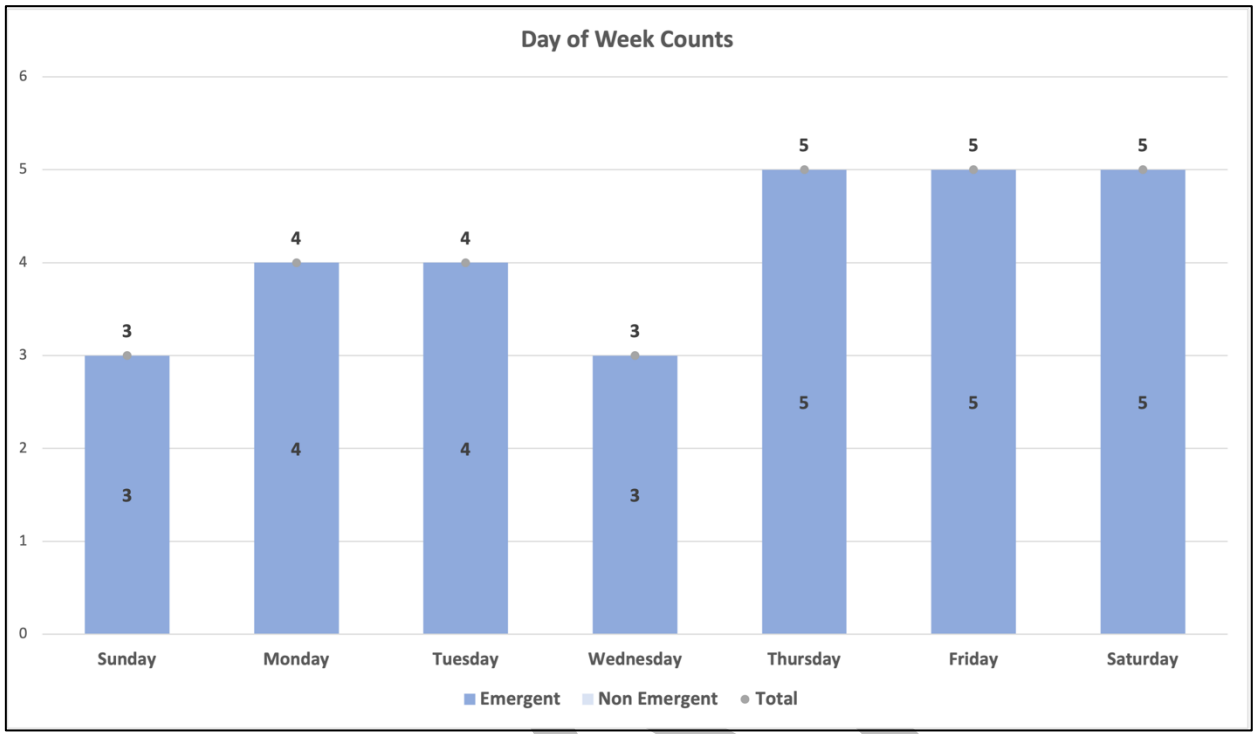


Chart 24 – Camp Williams Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with the peak volume for all calls in Camp Williams occurring towards the weekends.

Camp Williams – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	4	0	0
BLS Transports	1	0	0
Scene Release	0	2	0
Public Assistance	0	0	0
EMS Total Calls	5	2	0
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 63 – Camp Williams EMS Calls

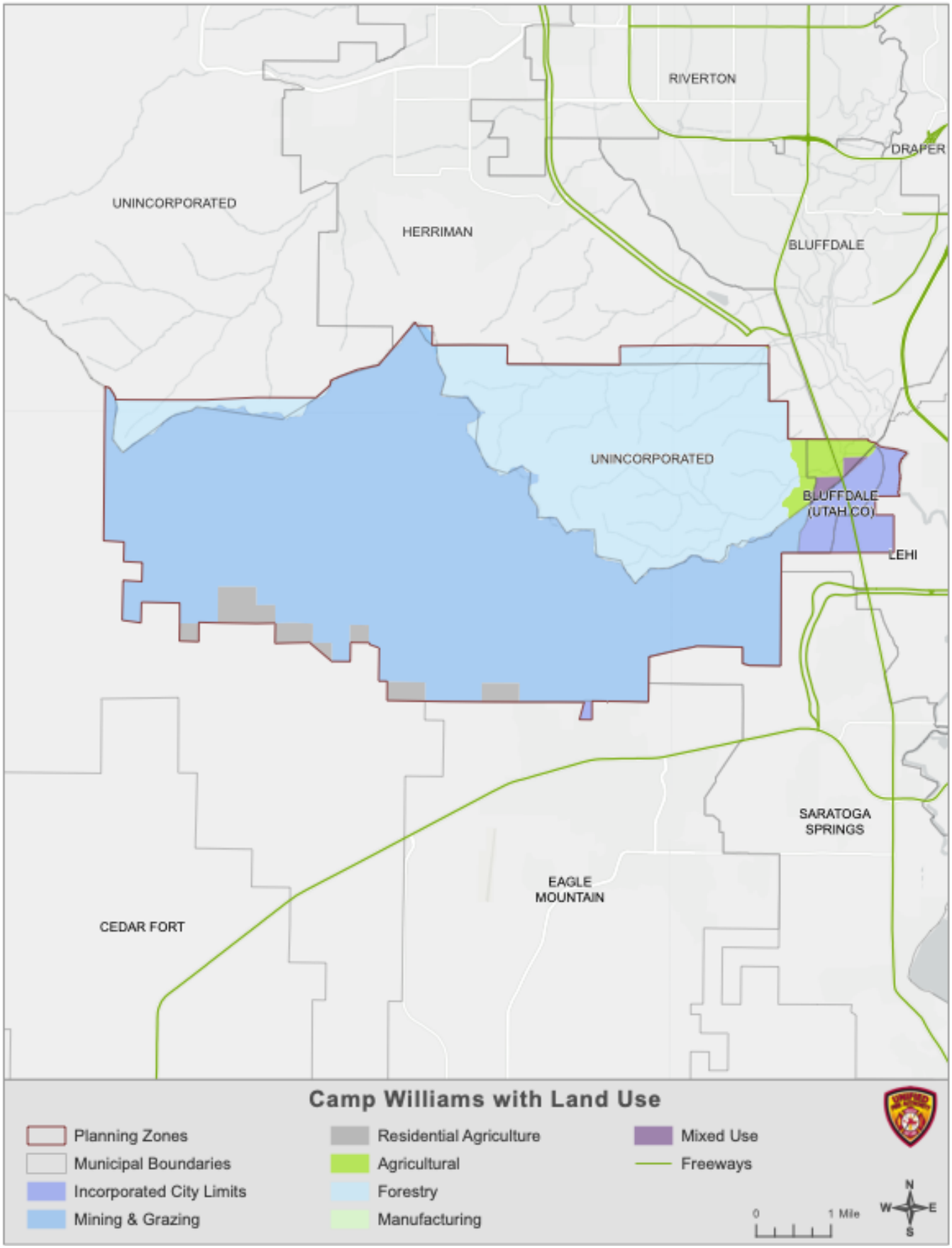
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Camp Williams – 2020 Fire Incidents by Dispatch Type

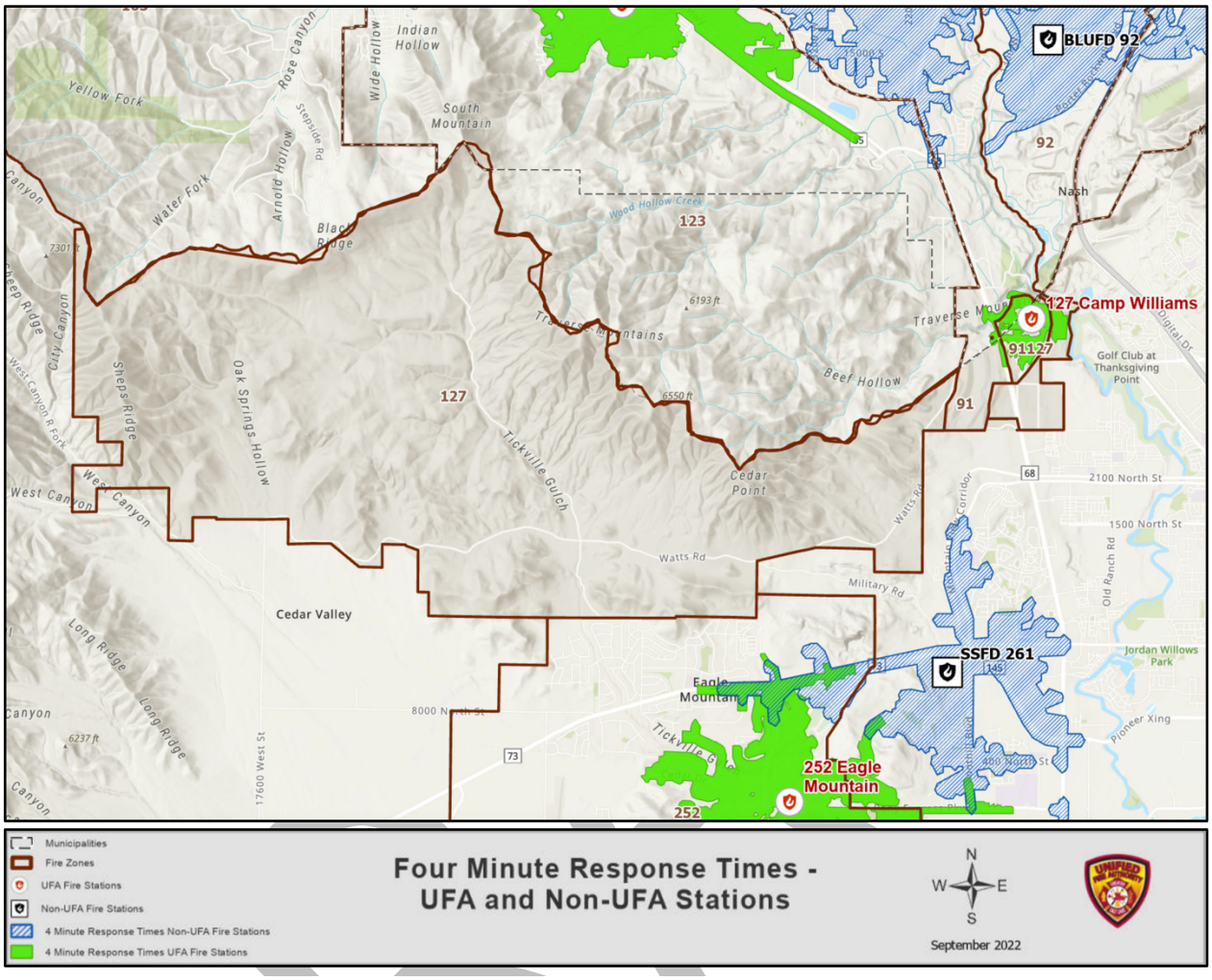
NFIRS Description	Incident Count	% of Incidents
Structure Fire	3	33.3%
Natural Vegetation Fire	6	66.6%
Total	7	100%

Table 64 – Camp Williams 2020 Incidents by Dispatch Type

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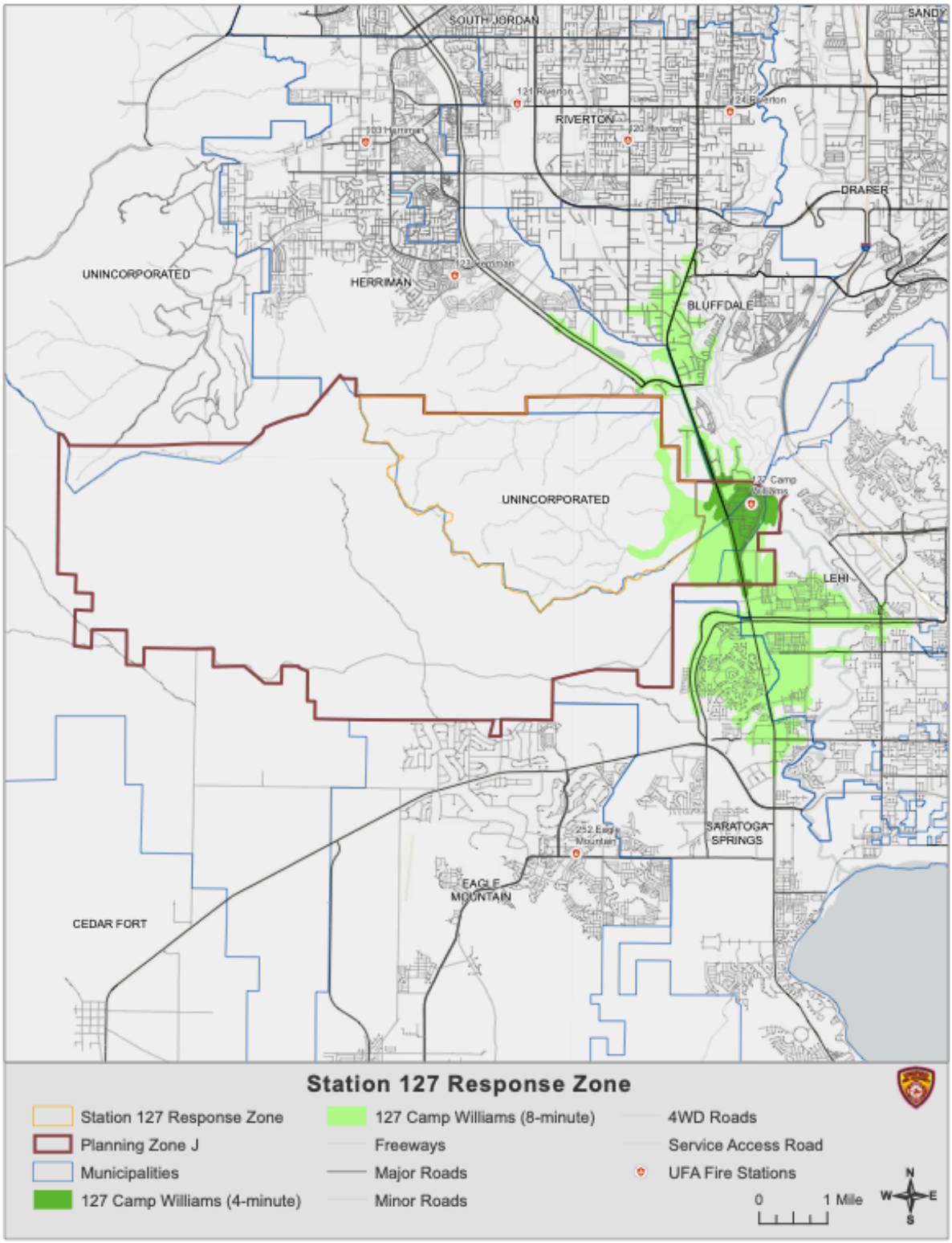


Map 88 – Camp Williams with Land Use



Map 89 - 4-Minute Travel Time, UFA and Aid

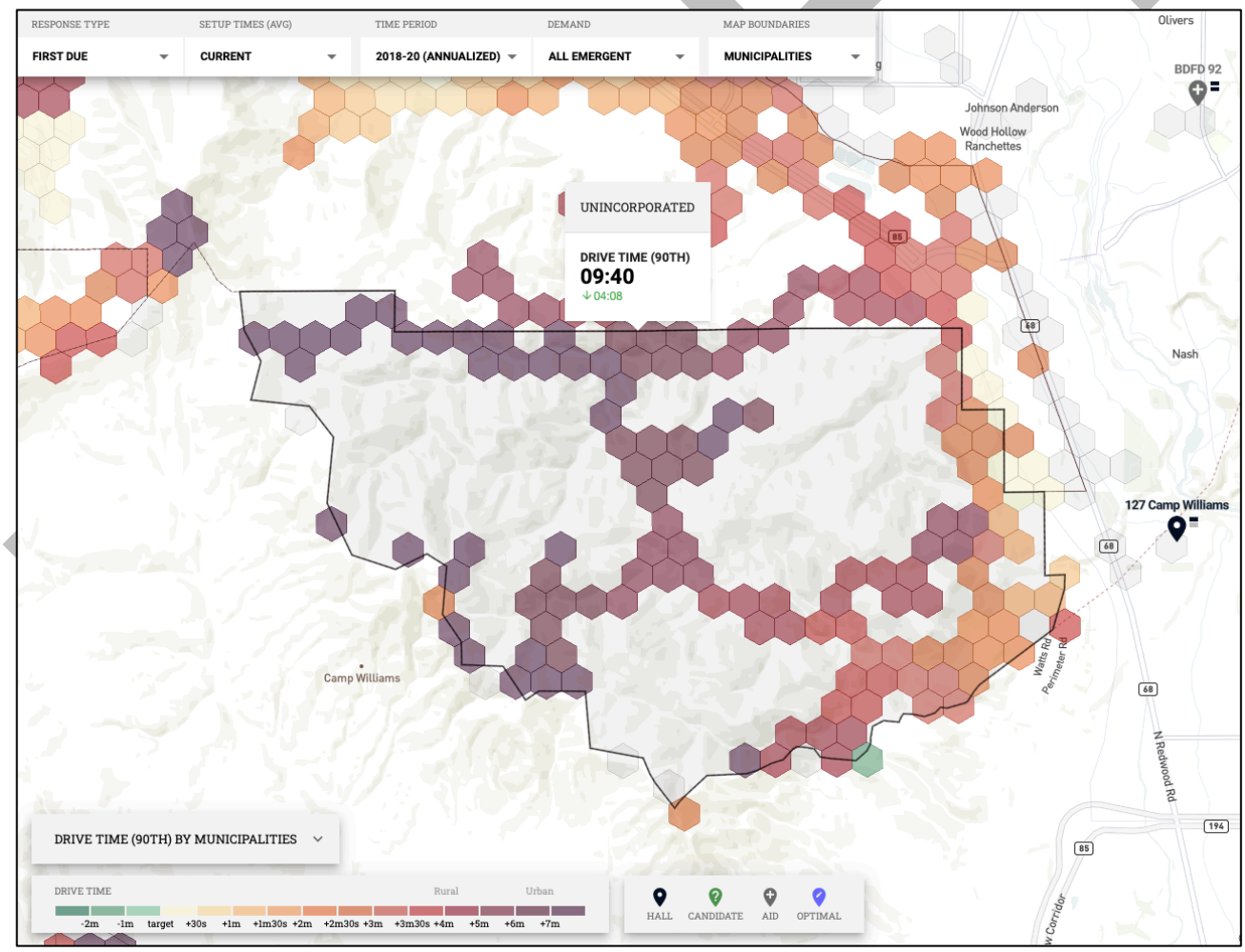
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Map 90 - Camp Williams 4- and 8-Minute Travel Time

Camp Williams – First Arriver Travel Times

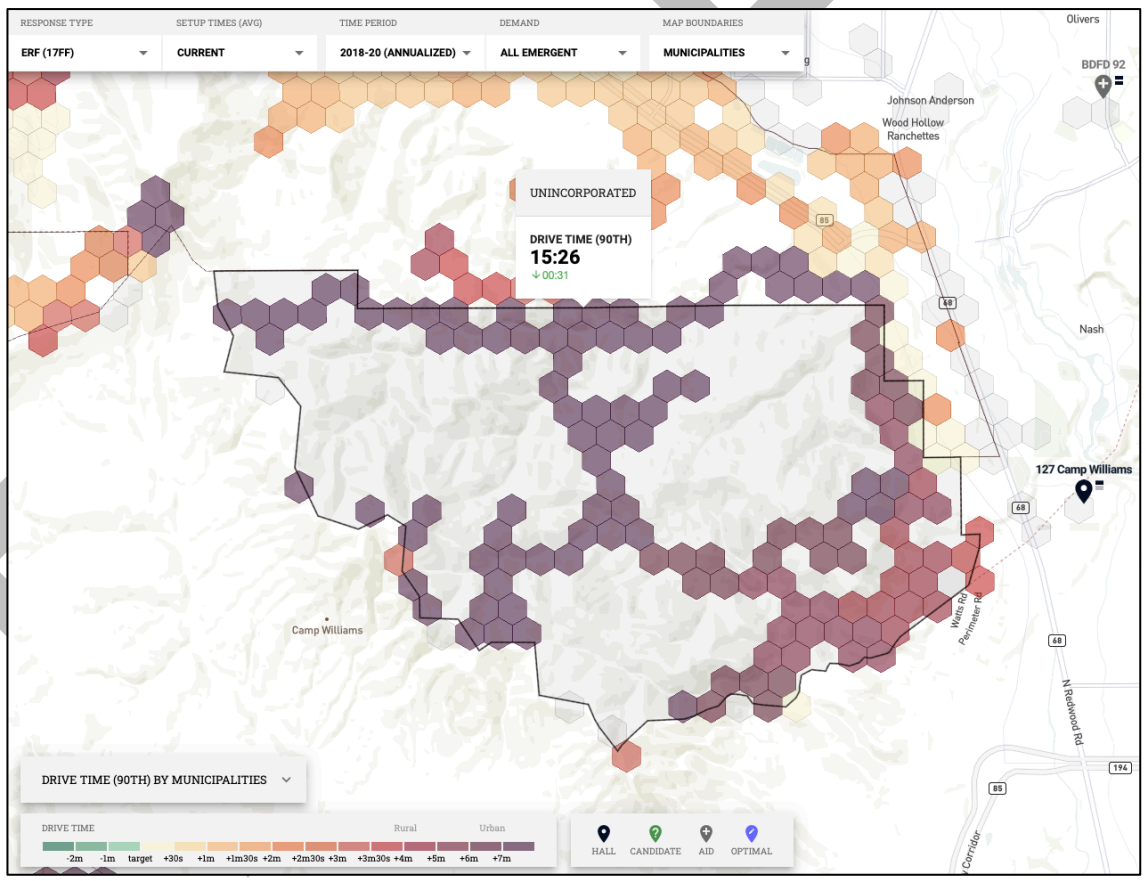
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for a first arriver to arrive on scene would be 9:40.



Map 91 – Camp Williams Response Times – All Aid

Camp Williams – Residential Fire Effective Response Force (17 FF)

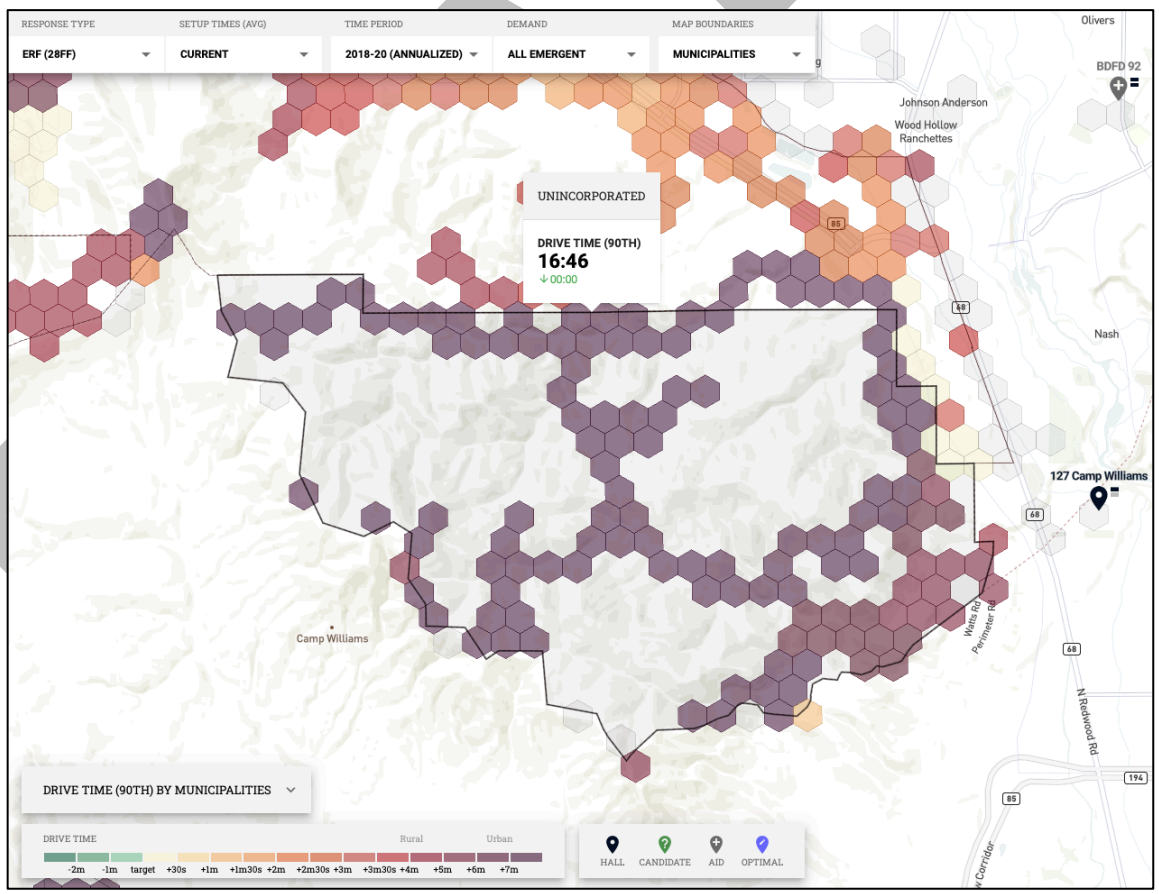
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 15:26.



Map 92 – Camp Williams Response Times – Residential Fire Effective Response Force (17 ERF)

Camp Williams – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 16:46.



Map 93 – Camp Williams Response Times – Commercial Fire Effective Response Force (28 FF)

Camp Williams Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Low	Low	Low	Low	Low	Low	High	Low	Low	Low	Low	Low

Table 65 – Copperton Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

The primary roadway that runs through Camp Williams is State Road 68 (Redwood Road) which runs north/south from Bangerter Highway to Saratoga Springs. There are 0 linear miles of Interstate/US Highway, 1.83 linear miles of State Highways, and 55.1 total linear miles of roadway. Camp Williams is in the low-risk category for road infrastructure.

Infrastructure – Water

There are no water districts within Camp Williams although Camp Williams maintains its own water supply and system as well as solar and wind power generating plants.

Infrastructure – Dams

There are zero identified dams within Camp Williams. Camp Williams is in the low-risk category for dam infrastructure.

Natural Hazards

Within Camp Williams, there are no concerns with avalanche areas, which is in the low-risk category for avalanche. There are no identified fault lines that run through the city

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(see Map 8). Camp Williams is in the low-risk category for liquefaction and low-risk category for fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings. Within Camp Williams, there are an estimated 0 URM's. Camp Williams is in the low-risk category for unreinforced masonry.

Wildland Urban Interface

There is high risk of urban interface fires within Camp Williams and within the surrounding Unincorporated Salt Lake County and Utah County areas directly adjacent to the municipal boundaries. One of the primary hazards is the lack of egress routes going out of Camp Williams. Camp Williams is in the high-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are no identified HazMat/Tier II Sites within Camp Williams, which is in the low-risk category.

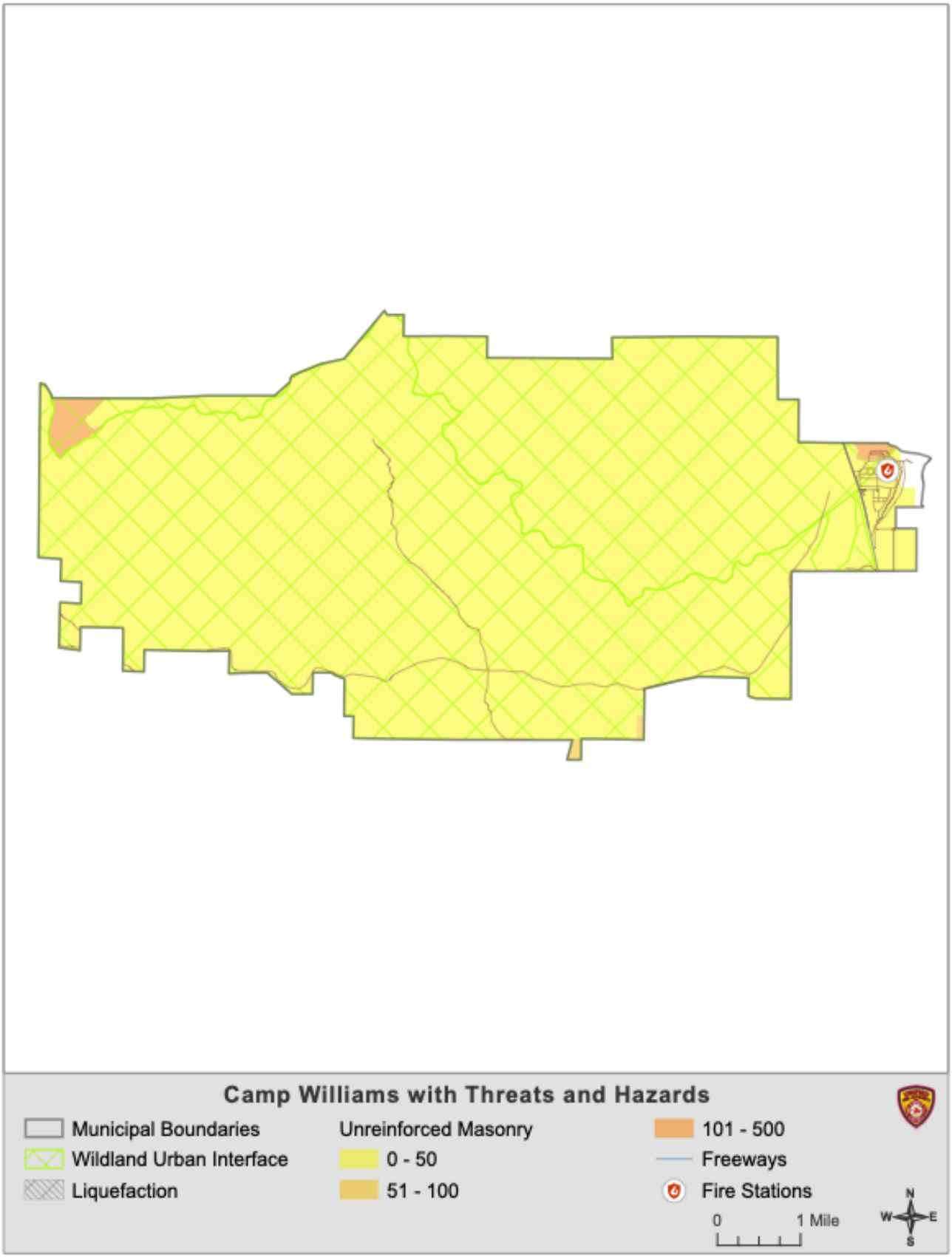
Hospitals

Camp Williams has no hospitals. This places Camp Williams in the low-risk category for hospitals.

Schools

Camp Williams has zero elementary schools, zero middle schools, and zero high school within city boundaries, which places it in the low-risk category.

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Map 94 – Camp Williams with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $0.00 of property loss and a total estimate of $0.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

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Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals, canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

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Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Copperton Township

Community Risk Assessment



Photo Courtesy of: KUTV

Copperton Metro Township

UNIFIED FIRE AUTHORITY
GREATER
SALT LAKE

Copperton Metro Township Planning Zone

UFA has one station within the Copperton Metro Township Planning Zone covering a total of 0.3125 square miles with a population of 829 and responded to 57 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Copperton	829	0.18%	0.31	2,674	Rural

Copperton has increased its population from 826 in 2010 to 829 in 2020, showing an increase of 0.36% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 20 demonstrates that Copperton will remain stable at 834 by the year 2040.

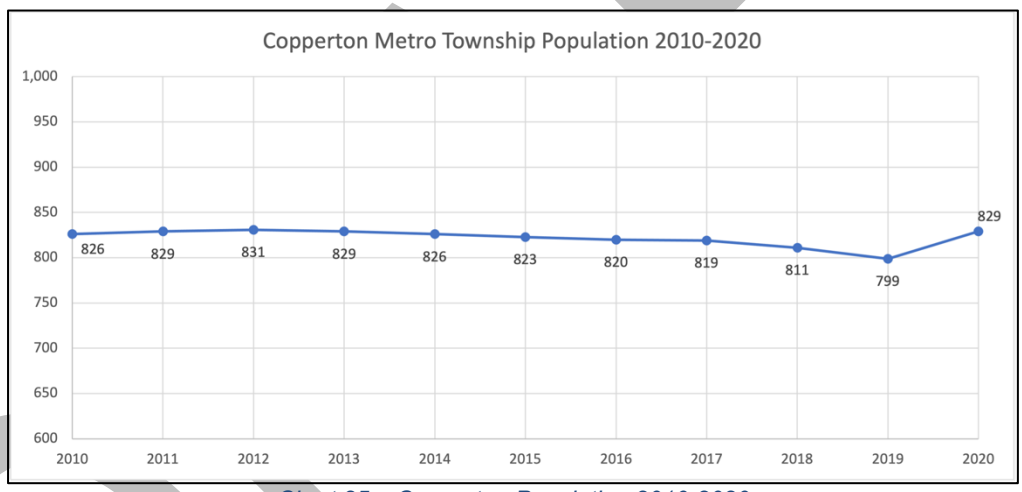


Chart 25 – Copperton Population 2010-2020

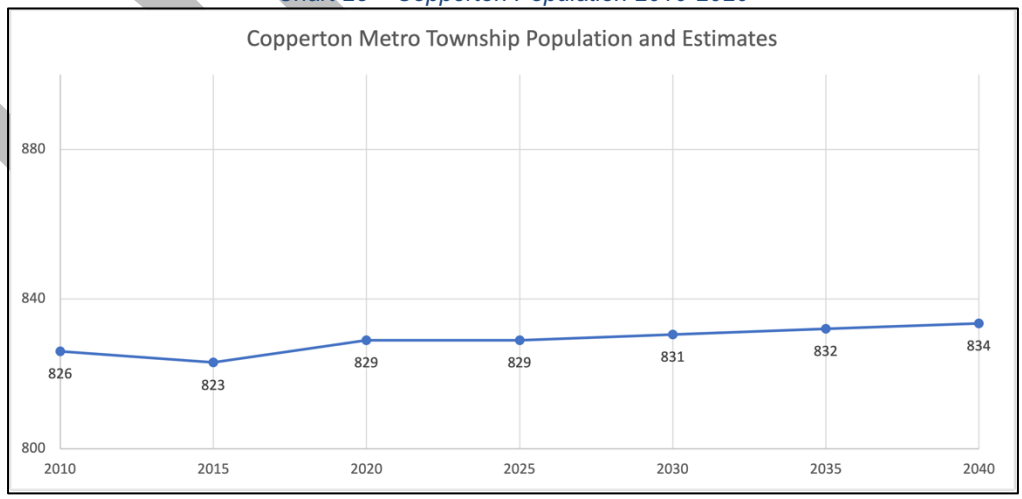


Chart 26 – Copperton Population and Estimates 2010-2040

Copperton Station Information

Station 115 information:

- Owner – UFSA
- Opened – 1983
- Address – 8495 West State Highway
- Staffing and Apparatus –
  - Type 1, ME 115 (3 persons)
  - Type 6, Brush Truck (cross-staffed)
  - Air & Light Utility Truck (cross-staffed)



Image 6 – Copperton Station 115

Surrounding UFA and Automatic/Mutual Aid Response Stations

Due to the rural location of Copperton as well as the long response times, there are currently no UFA, automatic or mutual-aid stations within an eight-minute response time.

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Copperton – Incidents by Dispatch Type Found

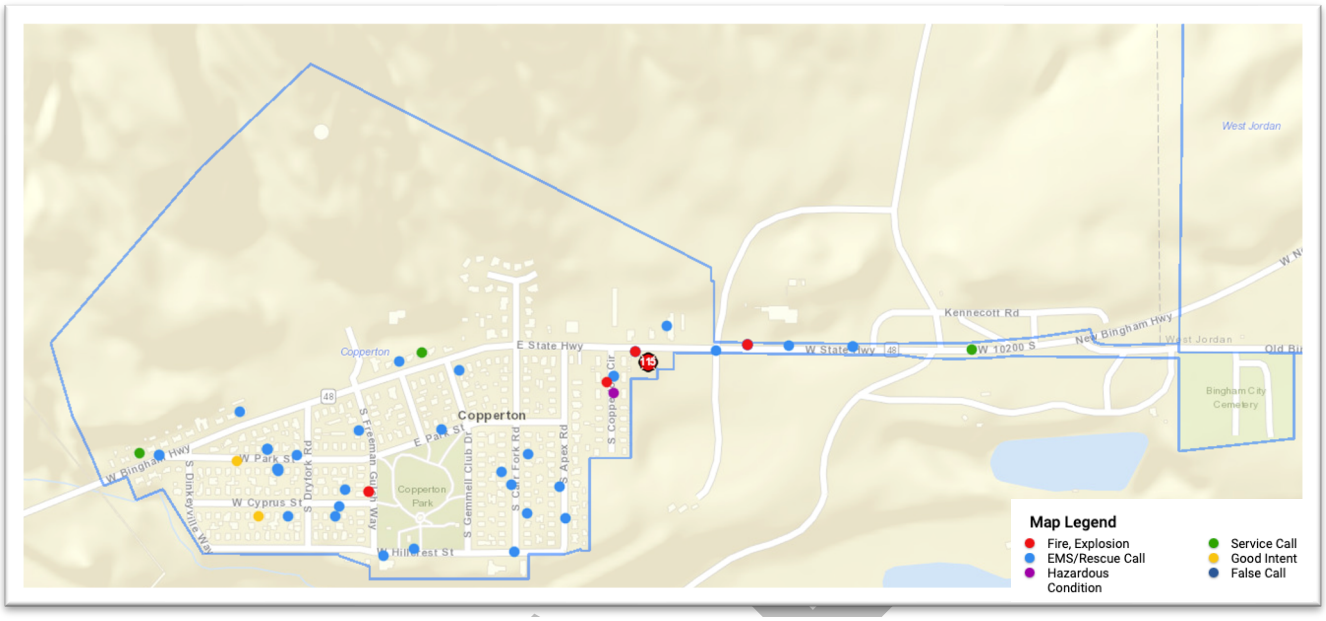
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	6	6	2
EMS	39	43	34
Hazardous Materials	1	1	1
Service Calls	3	2	2
Good Intent	4	5	5
False Calls	1	3	1
Other (Misc., Flood, Overpressure)	0	0	0
Total	54	60	45
Cancelled	3	1	4
Overall Total	57	61	49

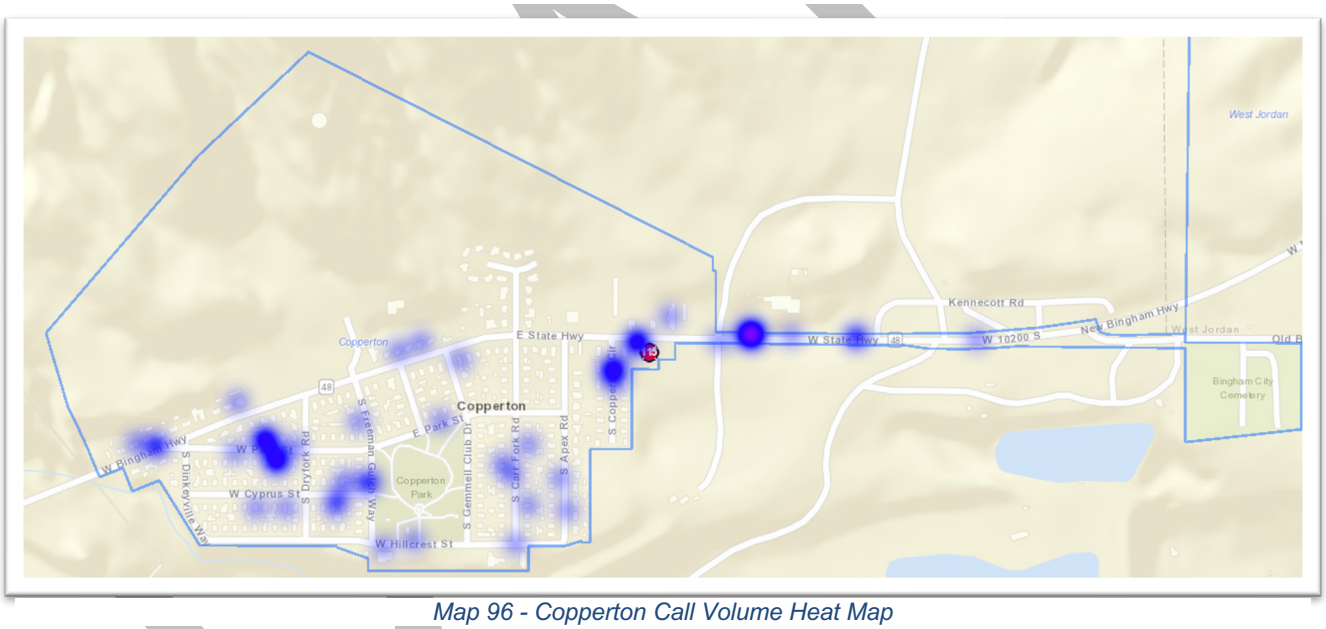
Table 66 – Copperton Call Types

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Copperton – 2020 Incidents and Heat Map



Map 95 – Copperton Incident Calls by Type



Map 96 - Copperton Call Volume Heat Map

NFPA 1710

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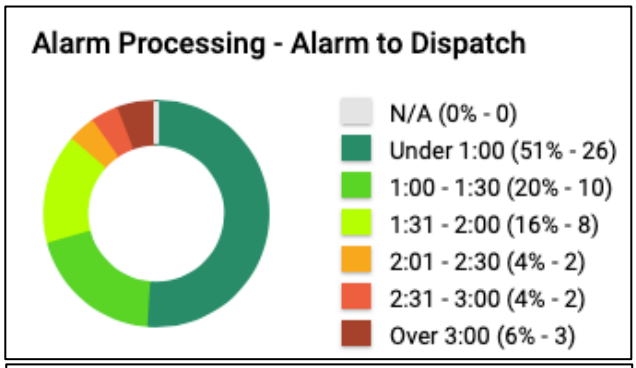
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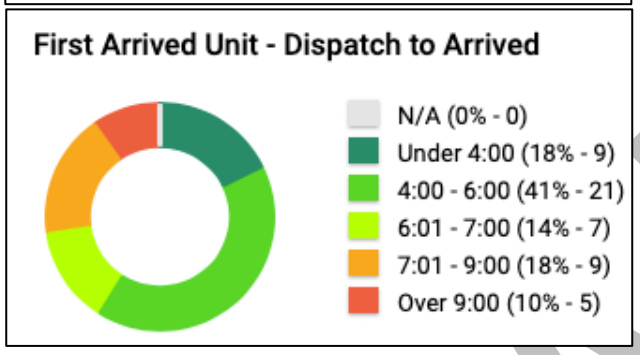
– Of Note…

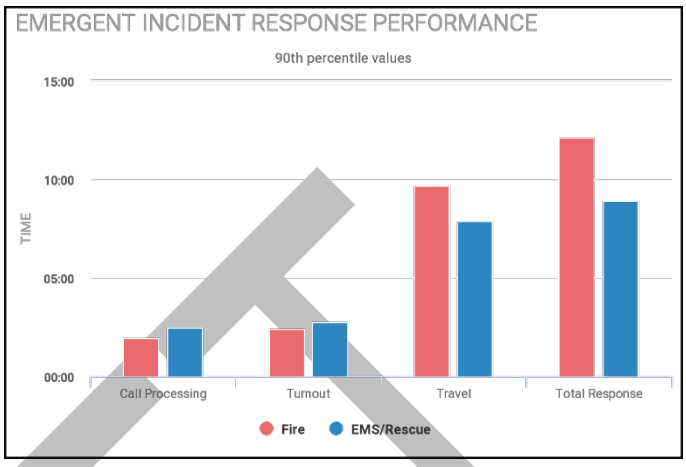
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Copperton – 2020 Dispatch and Response Times





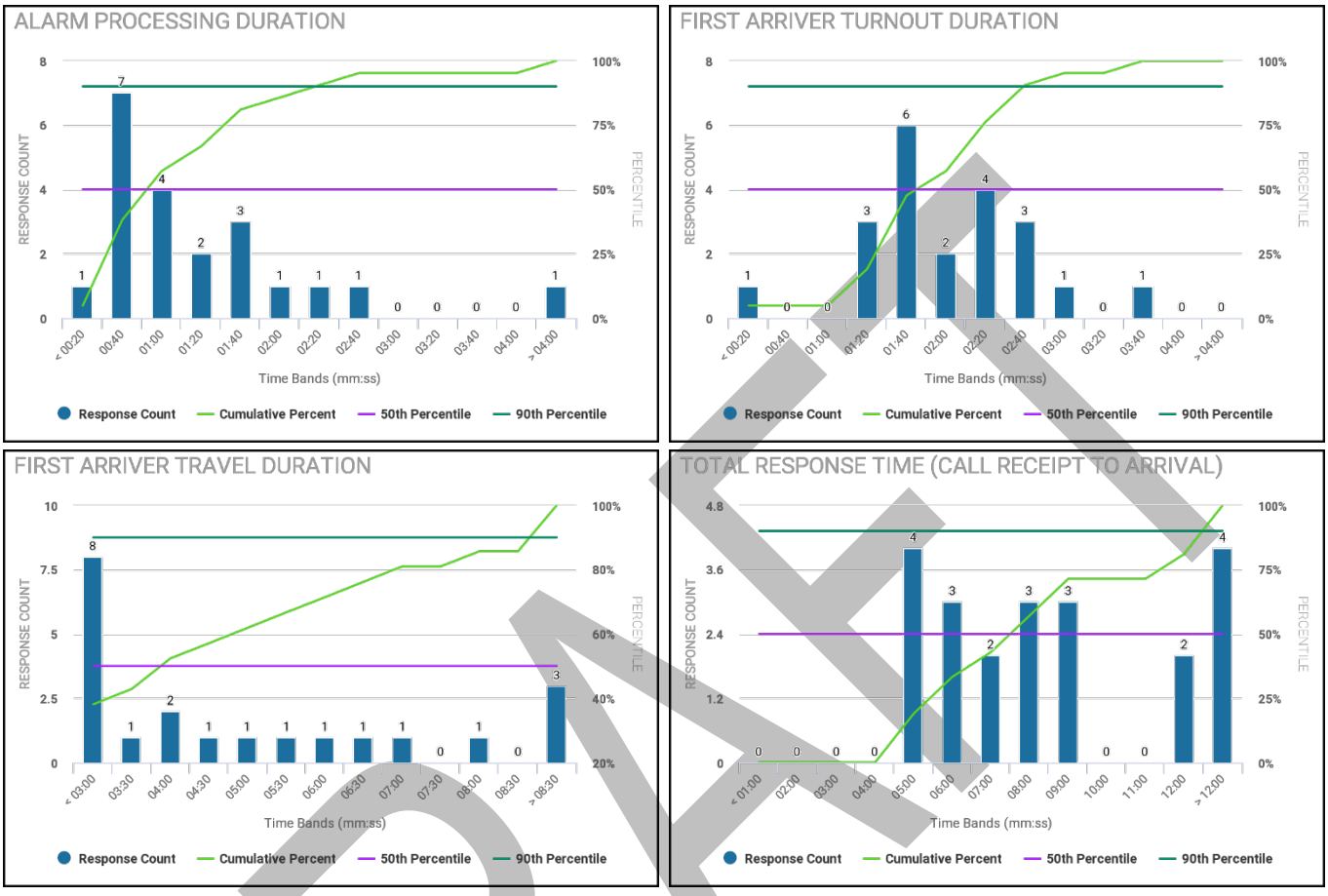


Rural	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Copperton	1:58	2:25	9:41	12:57	2:19	2:47	7:15	11:15
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 67 – Copperton 2020 Emergent Response Times, 90th percentile values

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Copperton – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Copperton (90th percentile). The alarm processing for fire was 1:58 and 2:19 for EMS; turnout time was 2:25 for fire responses and 2:47 for EMS responses; travel time was 9:41 for fire responses and 7:15 for EMS. The 90th percentile total response time was 12:57 for fire and 11:15 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Copperton – 2020 Incidents by Time of Day

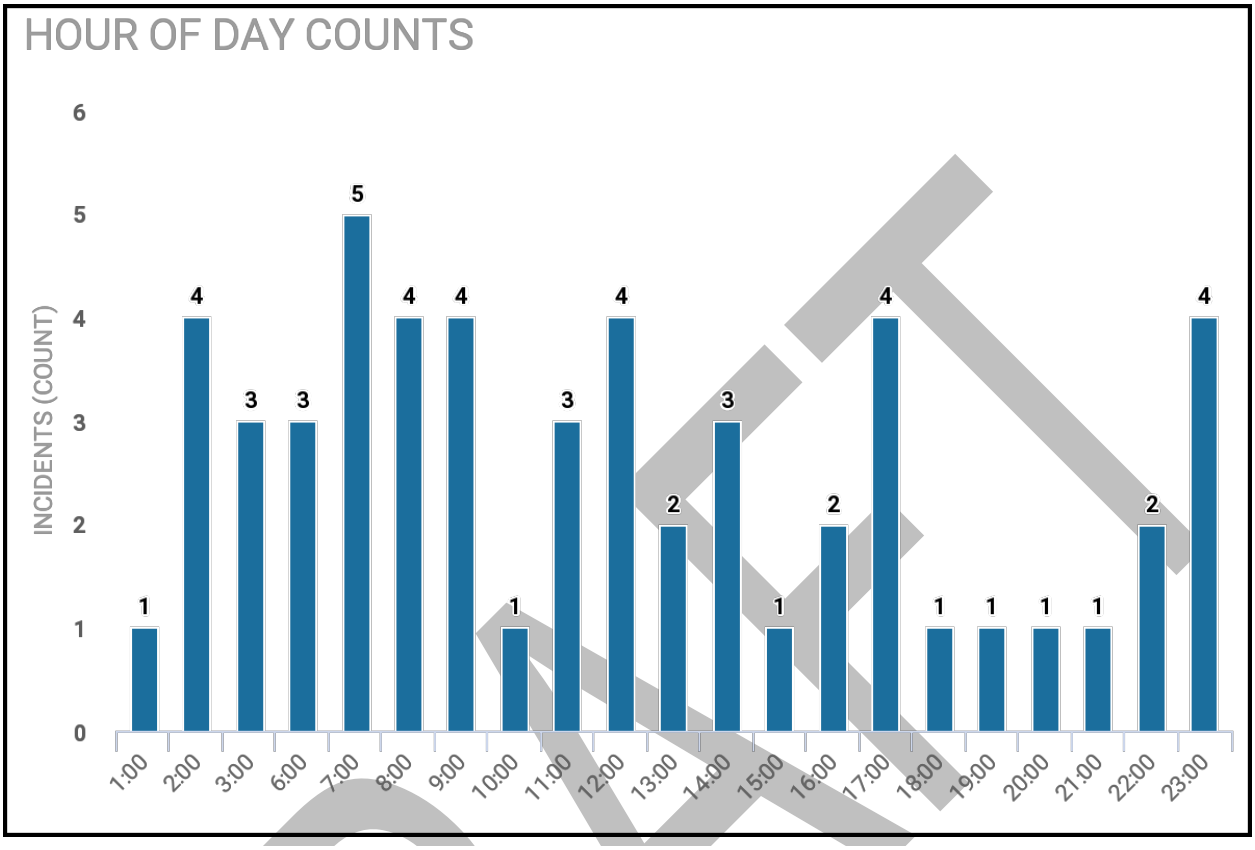


Chart 27 – Copperton 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Copperton for all service calls. This chart illustrates that there is no discernable pattern of calls throughout the day.

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Copperton – 2020 Incidents by Day of Week

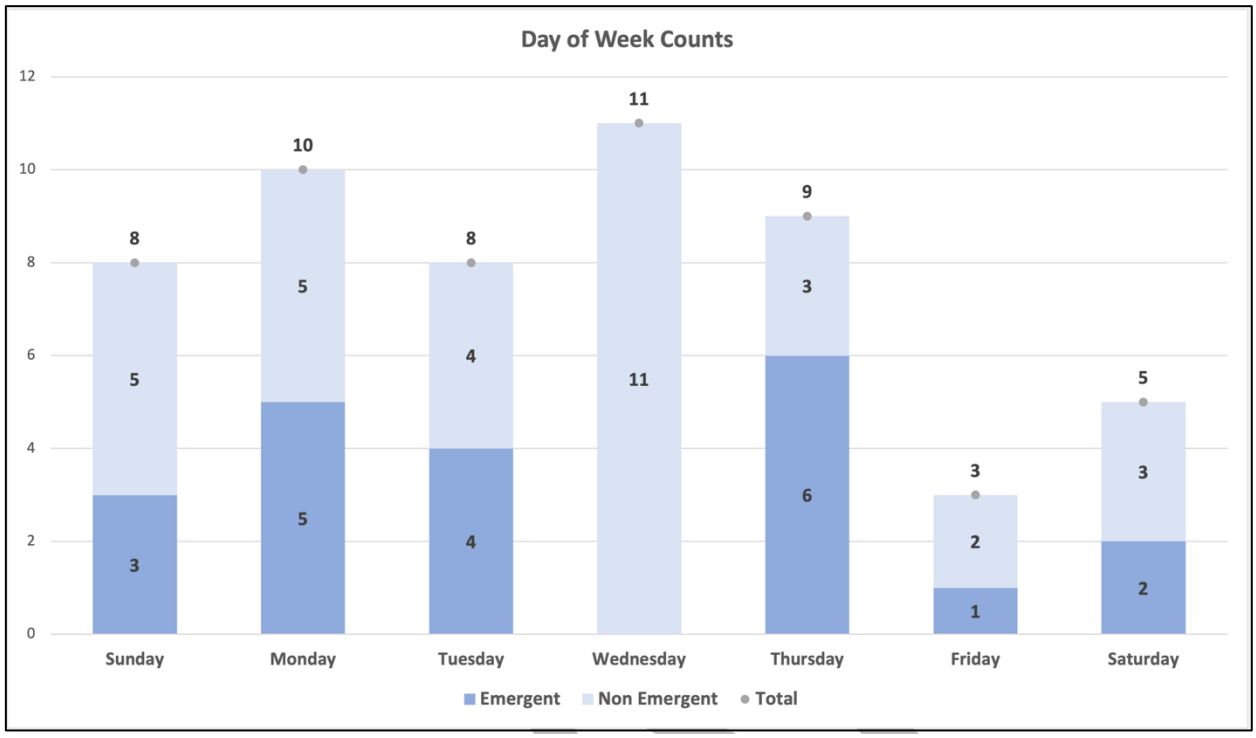


Chart 28 – Copperton Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with the peak volume for all calls in Copperton occurring on Wednesday.

Copperton – EMS Calls

	CY 2020	CY 2019	CY 2018
ALS Transports	19	21	23
BLS Transports	18	14	12
Scene Release	1	1	3
Public Assistance	1	0	0
EMS Total Calls	38	36	38

Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.

Table 68 – Copperton EMS Calls

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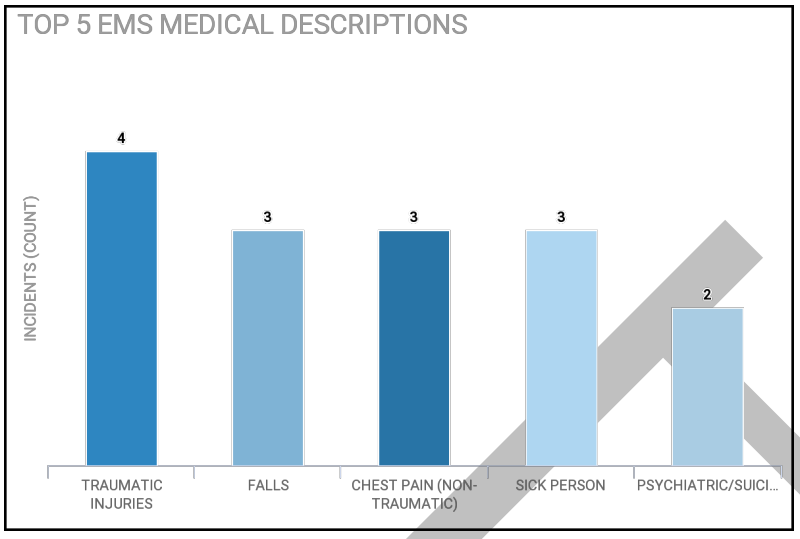


Chart 29 - Top 5 EMS Medical Calls - 2020

Copperton – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	4	57.1%
Natural Vegetation Fire	3	42.9%
Total	7	100%

Table 69 – Copperton 2020 Incidents by Dispatch Type

Copperton – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	0	2	0	0	2
Commercial/Industrial	0	0	0	0	0
Educational	0	0	0	0	0
Government	0	0	0	0	0
Healthcare	0	0	0	0	0
Hazardous	Unknown	Unknown	Unknown	Unknown	5*
Storage	0	0	0	0	0
Residential	162	76	5	0	243
Residential – Multi Unit	1	10	0	0	11
High Rise	N/A	N/A	0	0	0
Total	163	88	5	0	261

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

Table 70 – Copperton Building Occupancy and Risk Categories

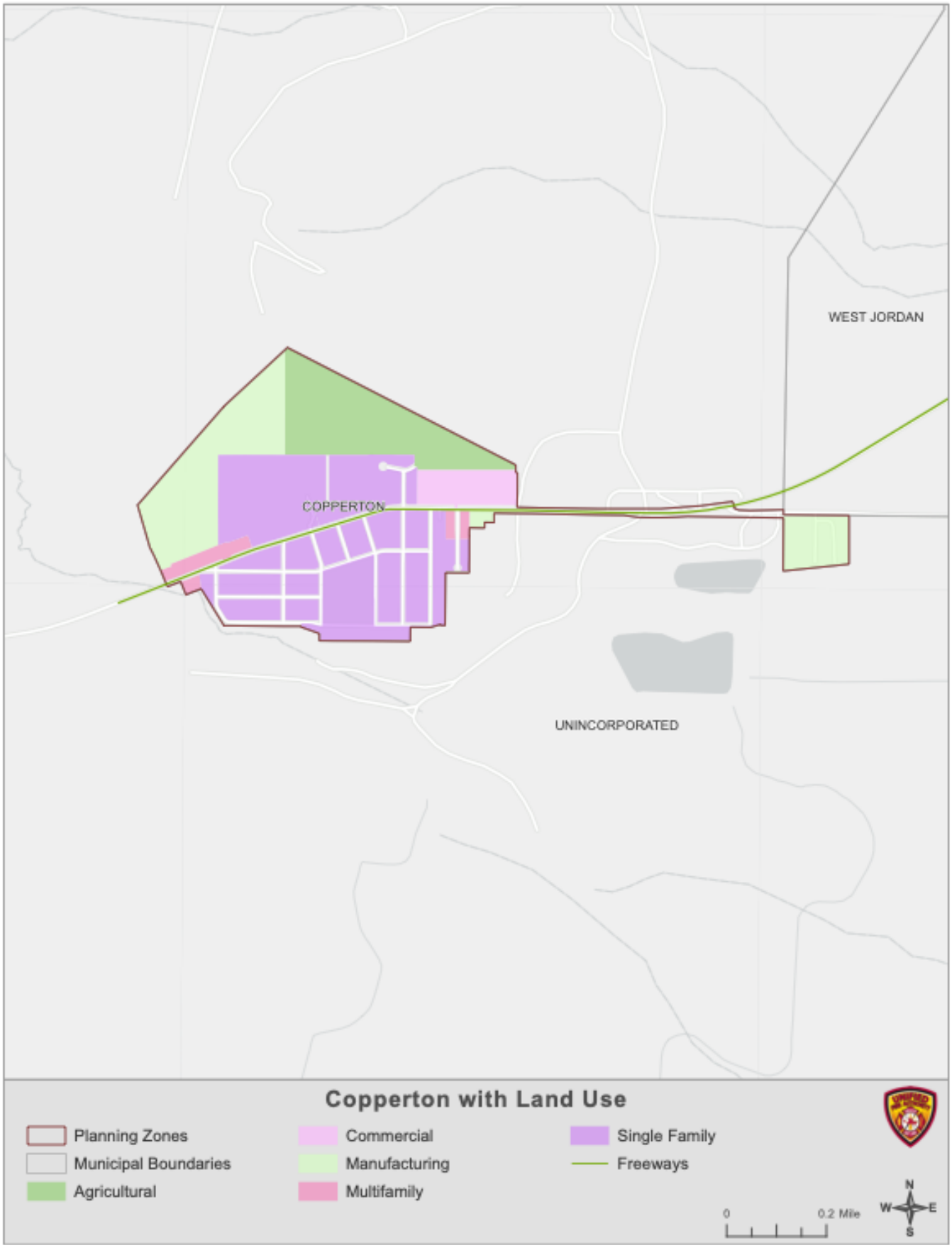
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Building Size / Considerations

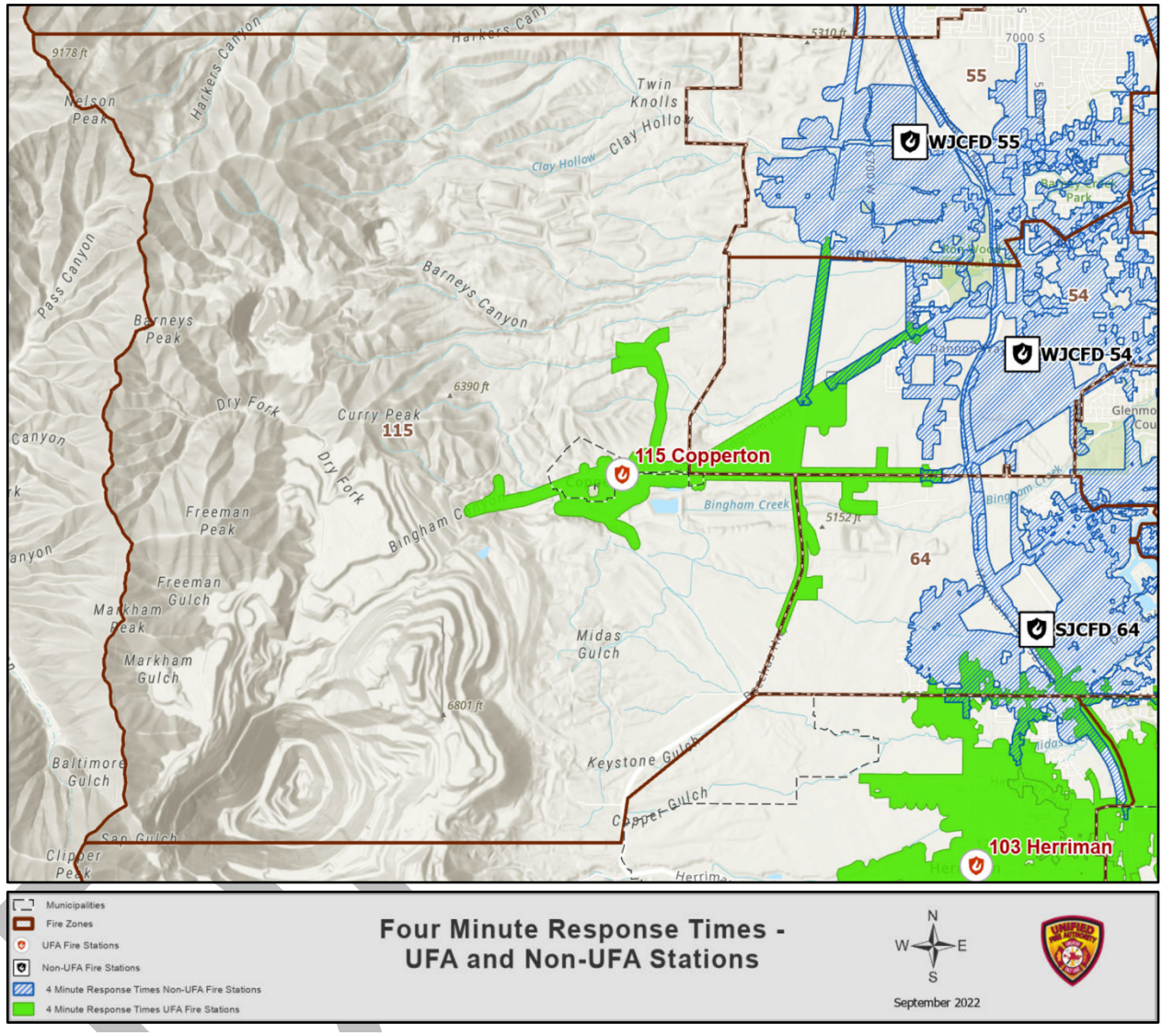
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

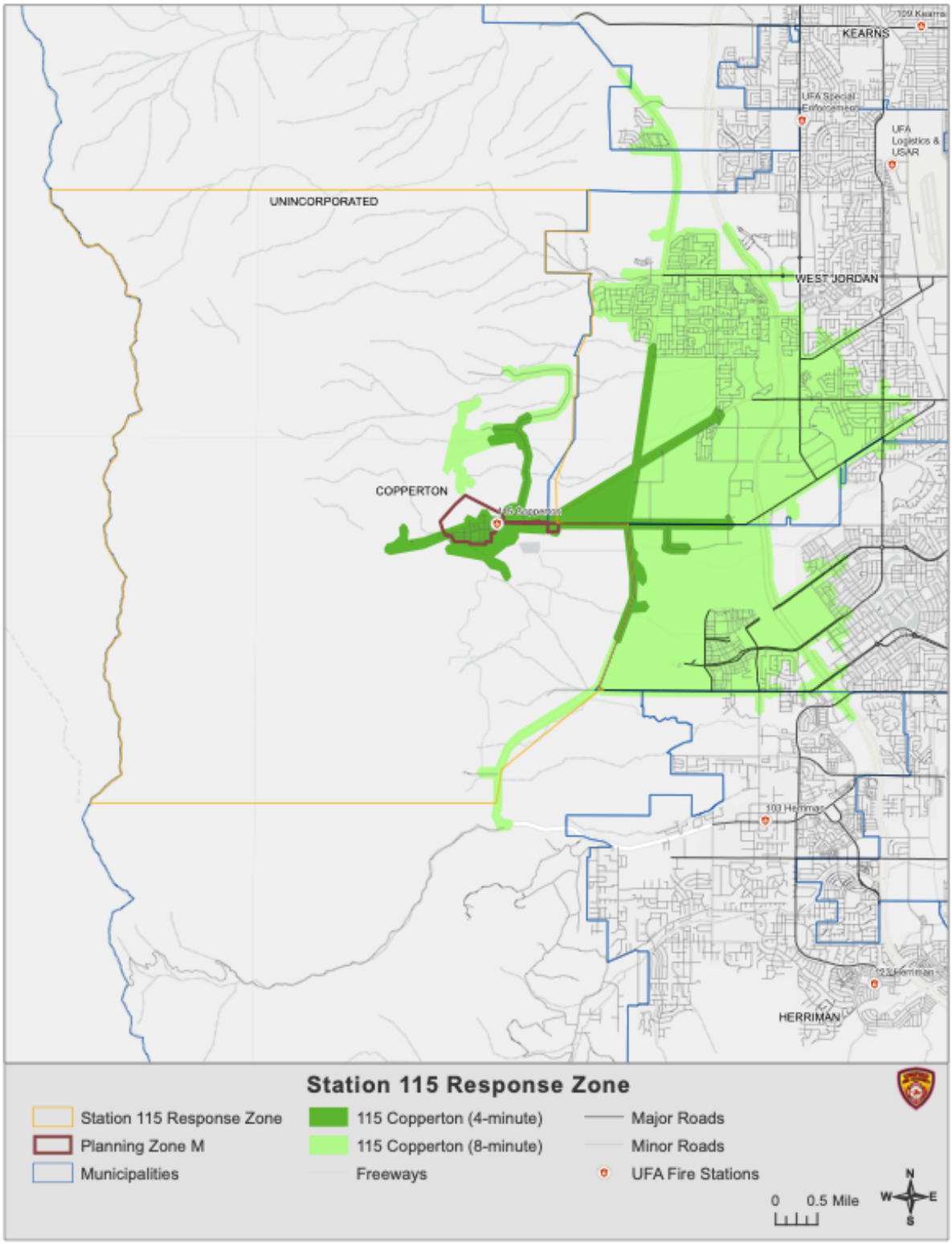
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Map 97 – Copperton with Land Use



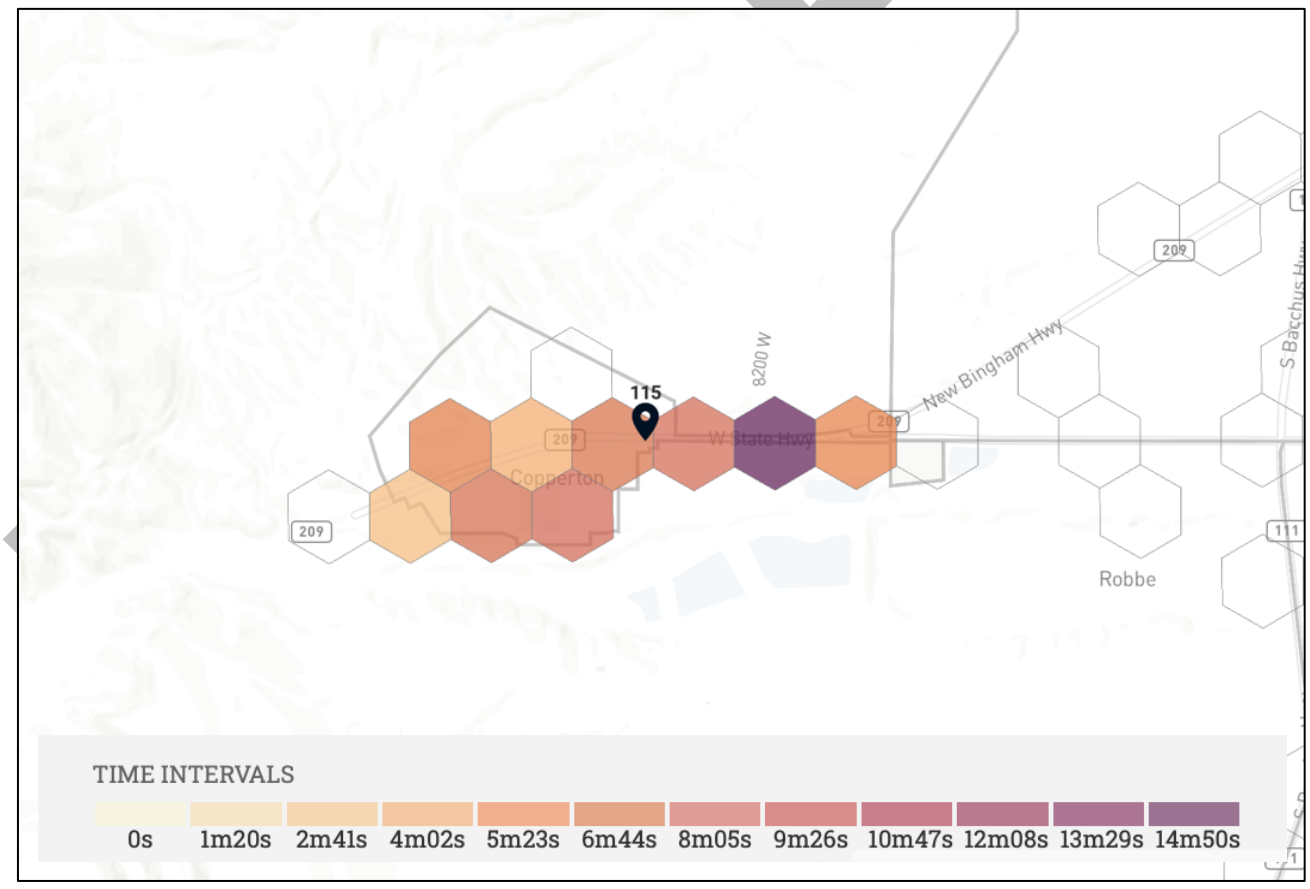
Map 98 - 4-Minute Travel Times, UFA and Aid



Map 99 - Station 115 4- and 8-Minute Travel Times

Copperton – First Arriver Travel Times

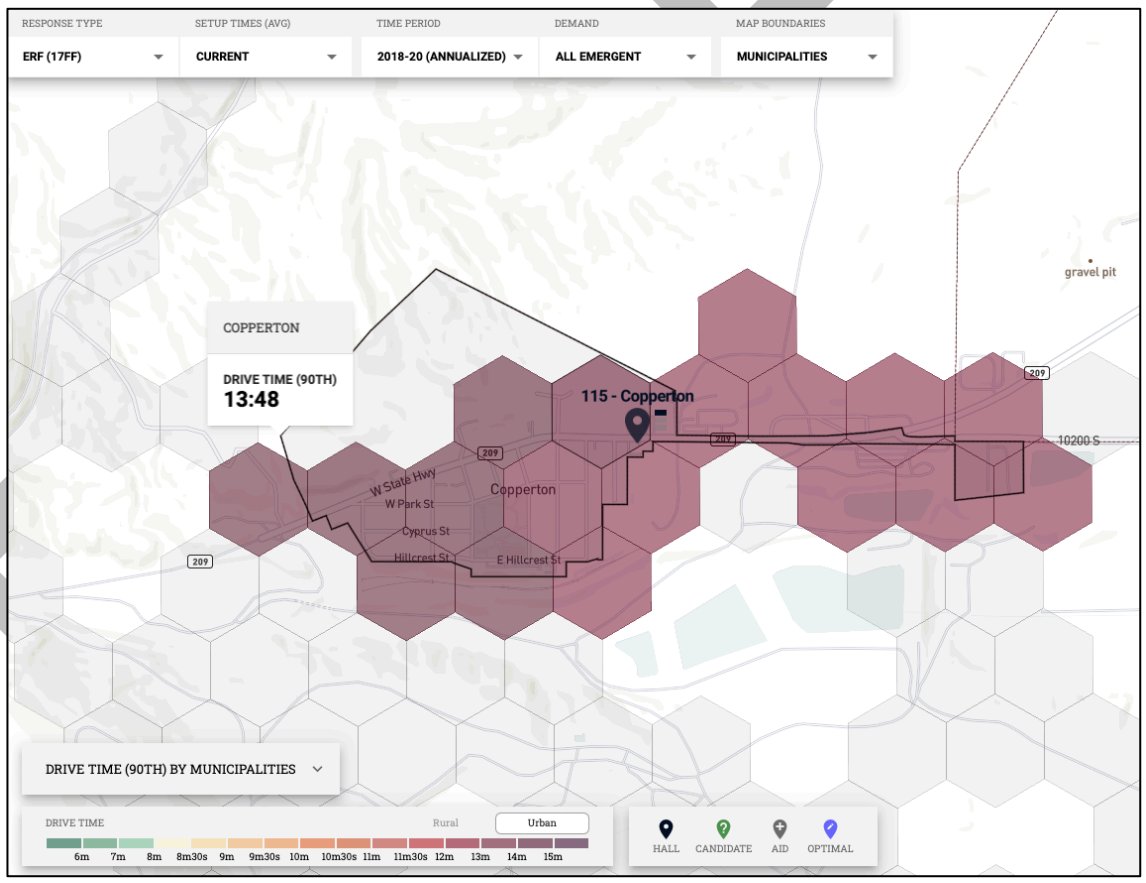
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the lighter colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within Copperton, the 90th percentile drive time is 9:41 for fire and 7:15 for EMS, or a combined 90th percentile drive time of 8:01.



Map 100 – Copperton Response Times – All Aid

Copperton – Residential Fire Effective Response Force (17 FF)

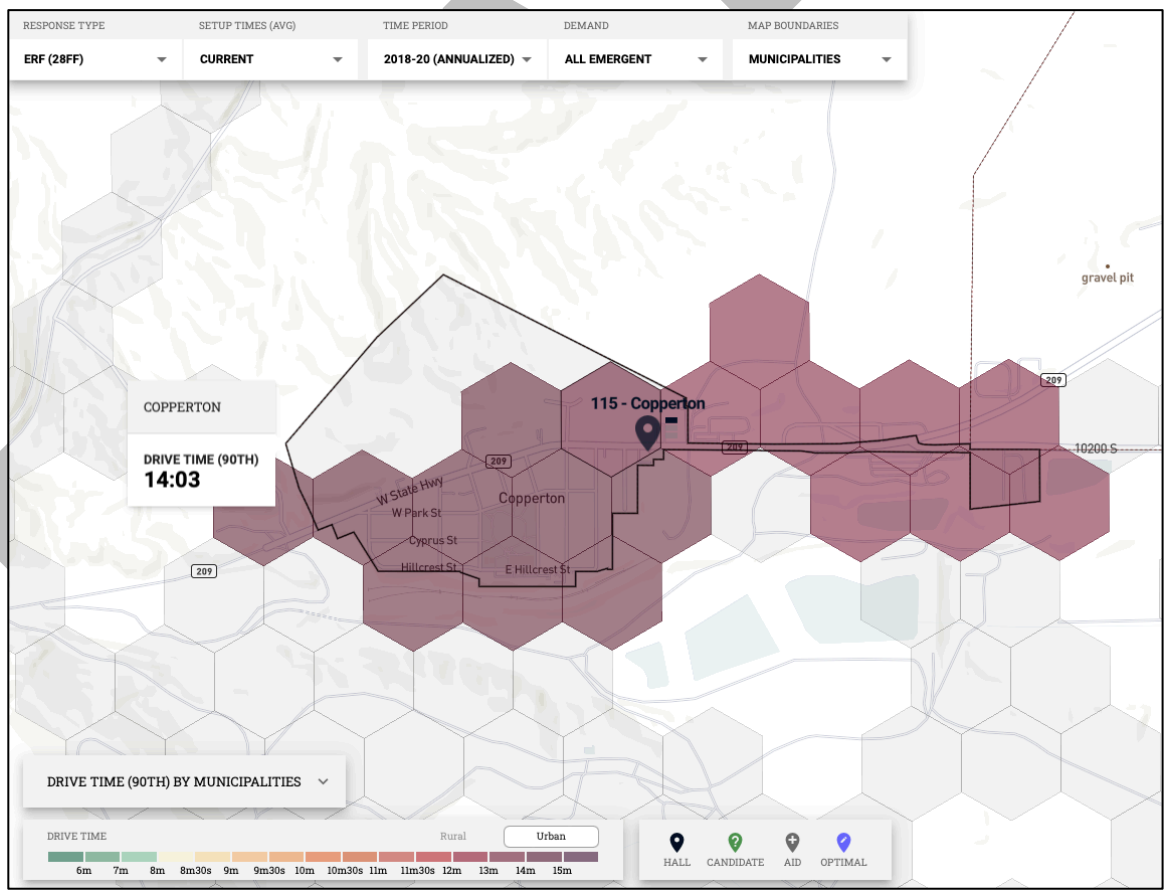
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 13:48.



Map 101 – Copperton Response Times – Residential Fire Effective Response Force (17 ERF)

Copperton – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 14:03.



Map 102 – Copperton Response Times – Commercial Fire Effective Response Force (28 FF)

Copperton Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Low	Low	Low	Low	Low	Mod	Mod	Low	Low	Low	Low	Low

Table 71 – Copperton Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

The primary roadway that runs to the Copperton Township is State Road 209 which runs east/west from Mountain View Corridor and Bacchus Highway. There are 0 linear miles of Interstate/US Highway, 1.3 linear miles of State Highways, and 4.6 total linear miles of roadway. UTA also runs bus routes to Copperton. Copperton is in the low-risk category for road infrastructure.

Infrastructure – Water

There are two water districts within Copperton, the Copperton Improvement District and the South Valley Sewer District.

Infrastructure – Dams

There are zero identified dams within Copperton. Copperton is in the low-risk category for dam infrastructure.

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Natural Hazards

Within Copperton, there are no concerns with avalanche areas. Copperton is in the low-risk category for avalanche. There are no identified fault lines that run through the city (see Map 8), although there is a fault line directly west of the township. Copperton is in the low-risk category for liquefaction and low-risk category for fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings. Within Copperton, there are an estimated 95 URM's, which constitutes about 0.39% of the overall URM's within UFA's response areas. Copperton is in the moderate-risk category for unreinforced masonry.

Wildland Urban Interface

There is moderate risk of urban interface fires within Copperton Township and within the surrounding Unincorporated Salt Lake County areas directly adjacent to the municipal boundaries. One of the primary hazards is the lack of egress routes going out of Copperton. Copperton is in the moderate-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are no identified HazMat/Tier II Sites within Copperton, which is in the low-risk category.

Hospitals

Copperton has no hospitals. This places Copperton in the low-risk category for hospitals.

Schools

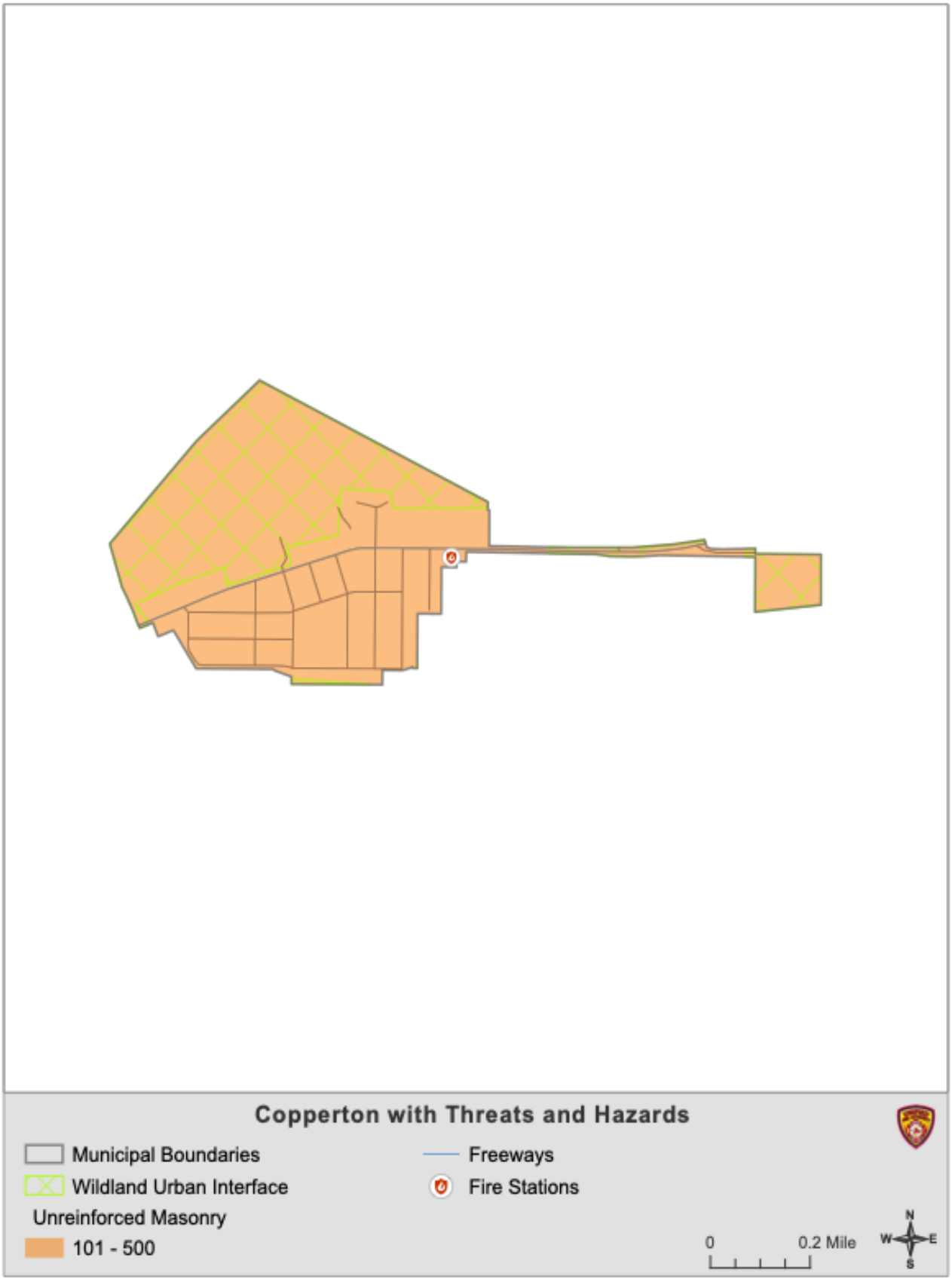
Copperton has zero elementary schools, zero middle schools, and zero high school within city boundaries, which places it in the low-risk category.

Target Hazards – Structures

Some of the target-hazard occupancies in Copperton include:

- Rio Tinto Kennecott Copper Mine

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Map 103 – Copperton with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $324,000.00 of property loss and a total estimate of $305,520.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Cottonwood Heights

Community Risk Assessment



Cottonwood Heights
City between the canyons

UNIFIED FIRE AUTHORITY
GREATER
SALT LAKE

City of Cottonwood Heights Planning Zone

UFA has two stations within the Cottonwood Heights Planning Zone covering a total of 9.23 square miles with a population of 33,617 and responded to 2,294 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Cottonwood Heights	33,617	7.45%	8.5	3,955	Urban

The City of Cottonwood Heights has decreased its population from 33,624 in 2010 to 33,617 in 2020, showing a decrease of 0.02% over a ten-year timeframe. Providing an decay growth pattern and if all things remain equal, chart 20 demonstrates that Cottonwood Heights will remain stable at 33,678 by the year 2040.

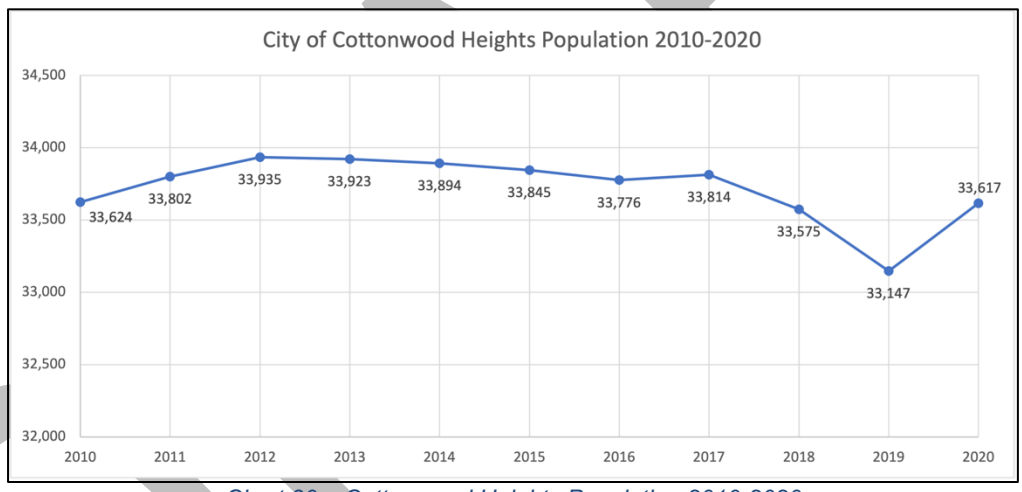


Chart 30 – Cottonwood Heights Population 2010-2020

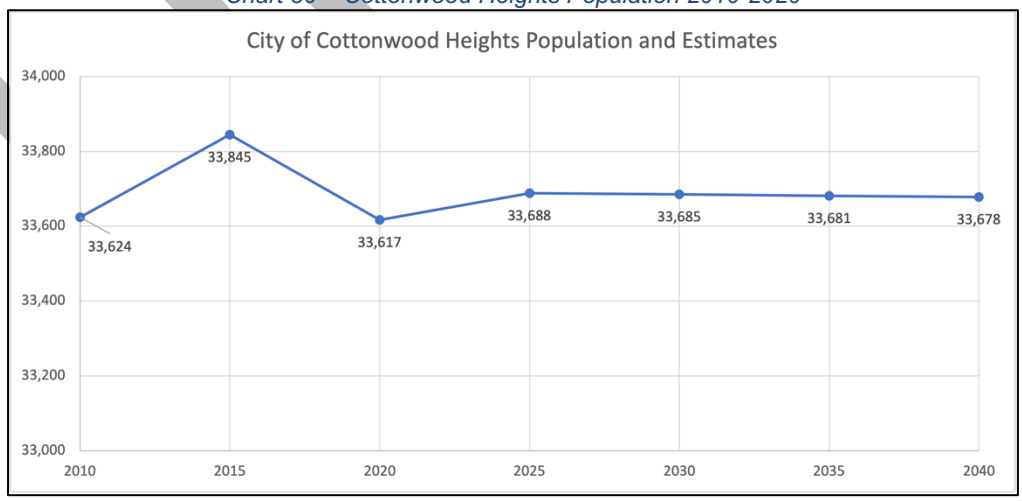


Chart 31 – Cottonwood Heights Population and Estimates 2010-2040

Cottonwood Heights Station Information

Station 110 information:

- Owner – Cottonwood Heights
- Opened – 1998
- Address – 1790 E. Fort Union Boulevard
- Staffing and Apparatus –
  - Type 1, ML 110 (4 persons)
  - MA 110 (2 persons)
  - Type 6, Brush Truck (cross-staffed)



Image 7 – Cottonwood Heights Station 110

Station 116 information:

- Owner – Cottonwood Heights
- Opened – 1999
- Address – 8303 S. Wasatch Boulevard
- Staffing and Apparatus –
  - Type 1, ME 116 (3 persons)
  - MA 216 (peak load/seasonal)
  - Water Rescue (cross-staffed)



Image 8 – Cottonwood Heights Station 116

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to the City of Cottonwood Heights are:

- UFA Station 104 (Holladay City), with a four-person medic engine and a two-person peak-load medic ambulance

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- UFA Station 125 (Midvale City), with a four-person medic engine and a two-person peak load medic ambulance
- UFA Station 126 (Midvale City), with a four-person medic engine and a two-person medic ambulance
- Sandy City Station 32, with a two-person medic engine and a two-person medic ambulance
- Sandy City Station 35, with a two-person medic engine and a two-person medic ambulance
- Murray City Station 82, with a three-person medic engine and a two-person medic ambulance

Cottonwood Heights – Incidents by Dispatch Type

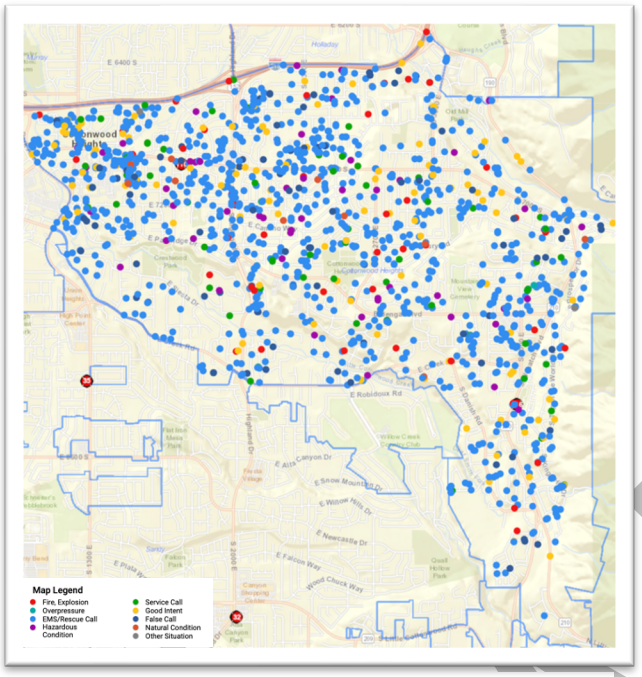
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	51	30	44
EMS	1,444	1,368	1,474
Hazardous Materials	55	60	41
Service Calls	97	129	95
Good Intent	326	283	228
False Calls	109	155	128
Other (Misc., Flood, Overpressure)	14	6	7
Total	2,096	2,031	2,017
Cancelled	198	169	156
Overall Total	2,294	2,200	2,173

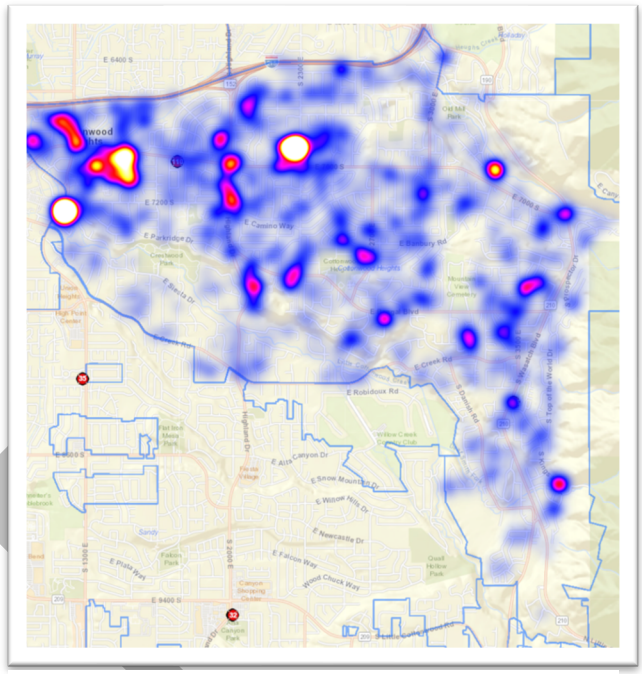
Table 72 – Cottonwood Heights Call Type

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Cottonwood Heights – 2020 Incidents and Heat Map



Map 104 – Cottonwood Heights Incident Calls by Type



Map 105 – Cottonwood Heights Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total

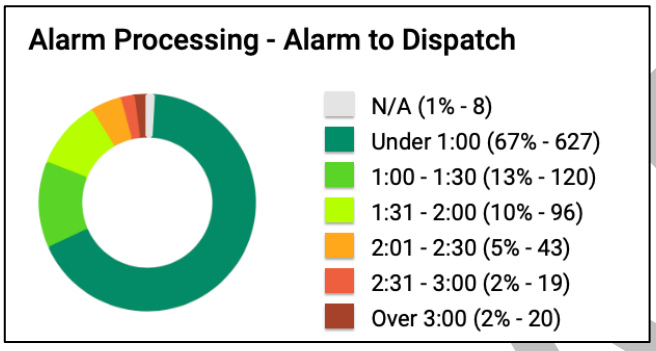
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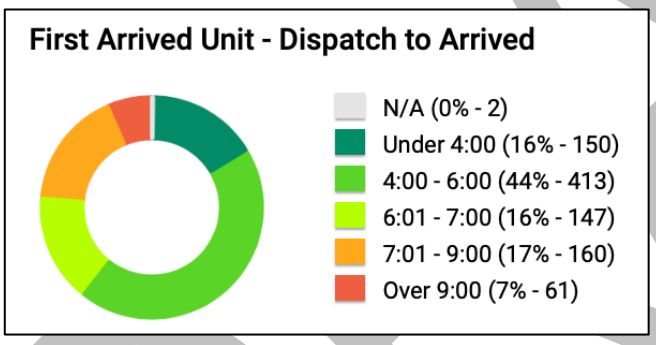
response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

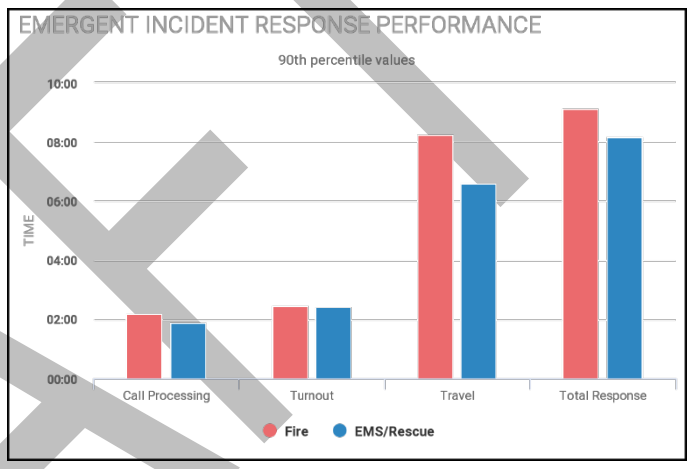
– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

Cottonwood Heights – 2020 Dispatch and Response Times



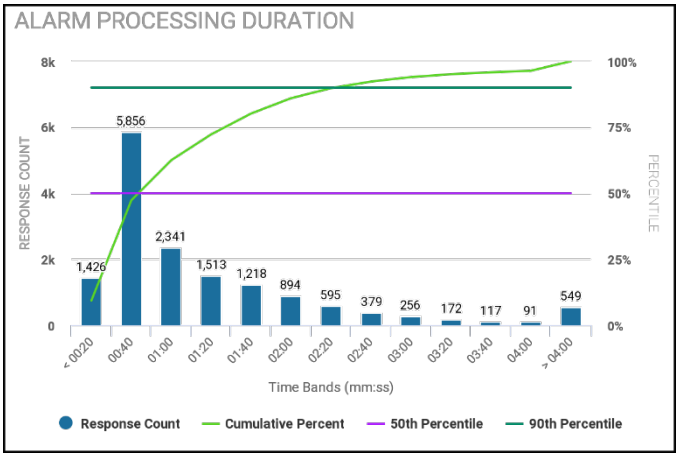


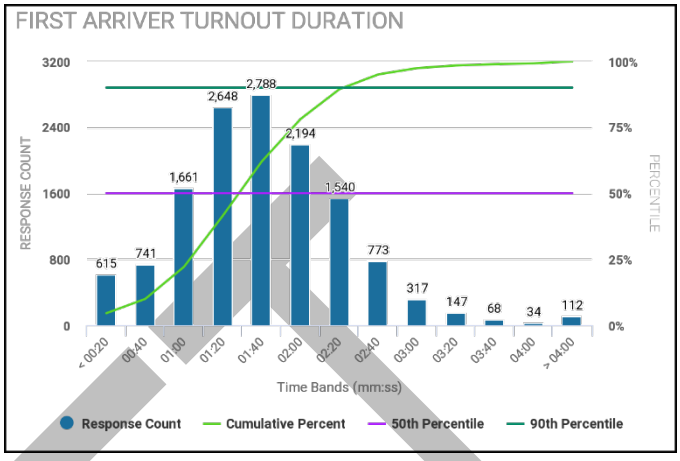


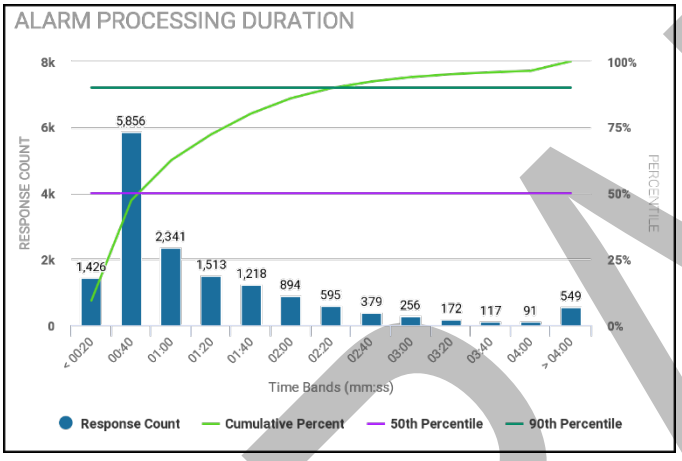
Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Cottonwood Heights	2:10	2:36	8:18	11:25	1:53	2:25	6:30	9:16
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

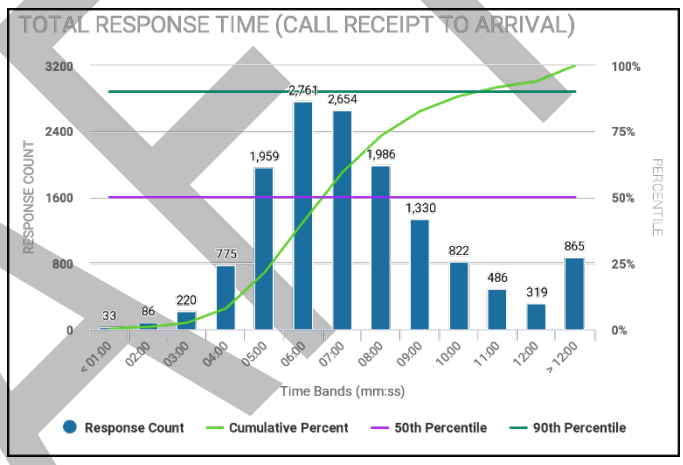
Table 73 – Cottonwood Heights 2020 Emergent Response Times, 90th percentile values

Cottonwood Heights – 2020 Turnout and Travel Time









The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Cottonwood Heights (90th percentile). The alarm processing for fire was 2:10 and 1:53 for EMS; turnout time was 2:36 for fire responses and 2:25 for EMS responses; travel time was 8:18 for fire responses and 6:30 for EMS. The 90th percentile total response time was 11:25 for fire and 9:16 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Cottonwood Heights – 2020 Incidents by Time of Day

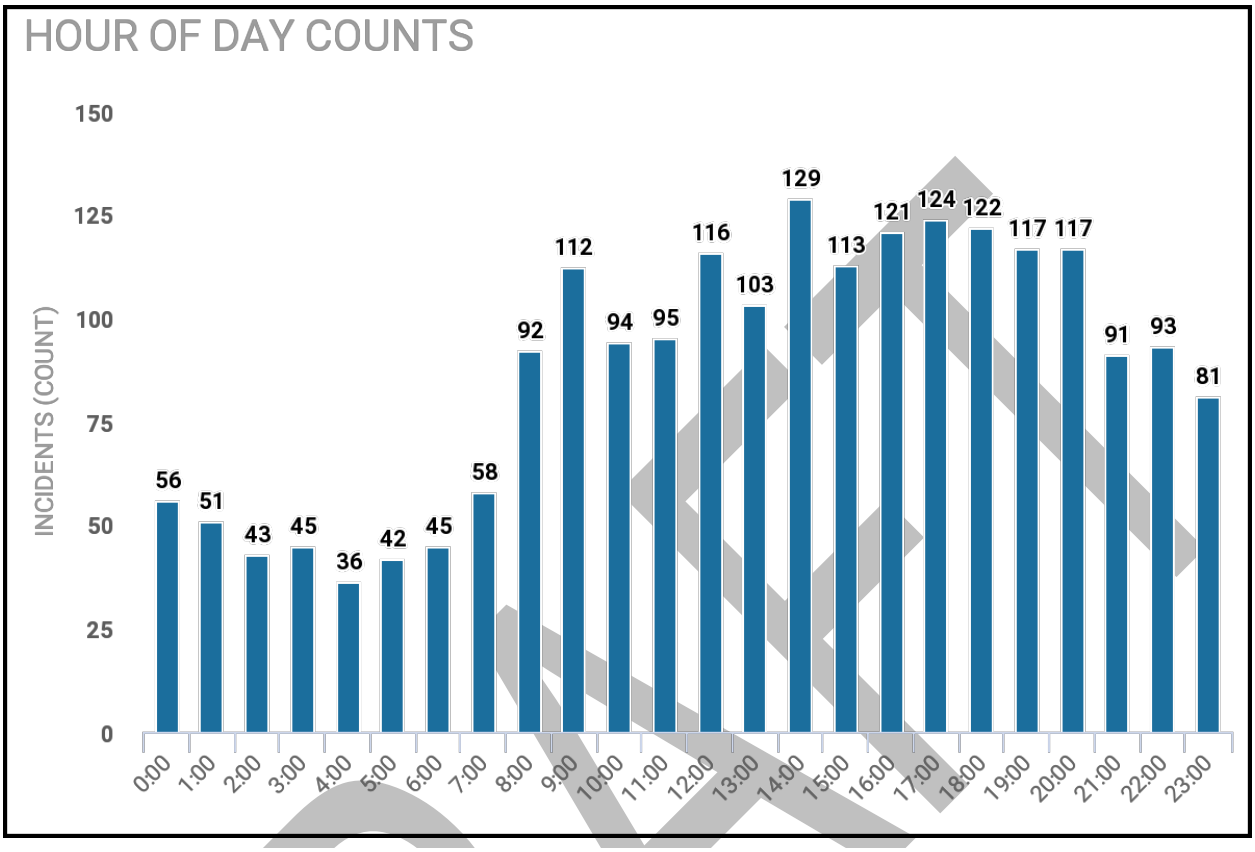


Chart 32 – Cottonwood Heights 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Cottonwood Heights for all service calls. This chart illustrates that the greatest demand for service delivery begins at 07:00 AM and starts to decrease at 06:00 PM.

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Cottonwood Heights – 2020 Incidents by Day of Week

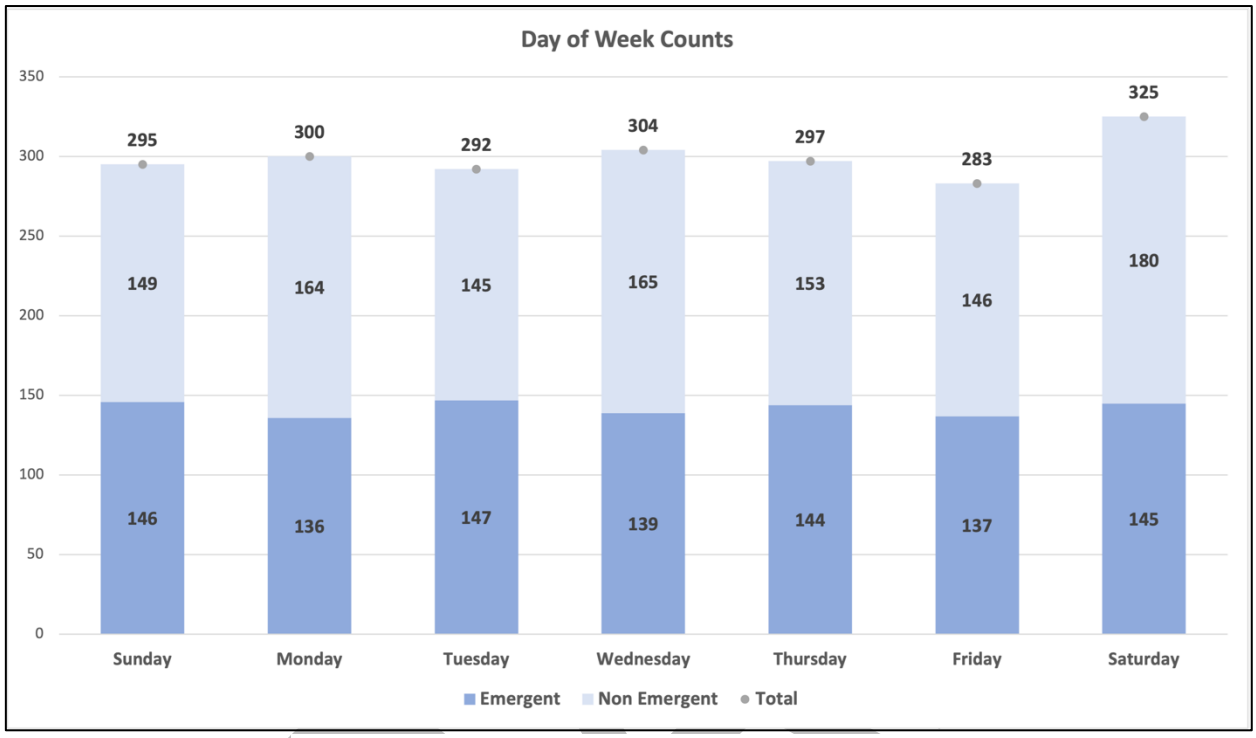


Chart 33 – Cottonwood Heights Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls as well as the peak volume for all calls in Cottonwood Heights occurring on Saturday.

Cottonwood Heights – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

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	CY 2020	CY 2019	CY 2018
ALS Transports	704	650	761
BLS Transports	943	842	980
Scene Release	151	104	476
Public Assistance	28	16	12
EMS Total Calls	1,798	1,596	2,217
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 74 –Cottonwood Heights EMS Calls

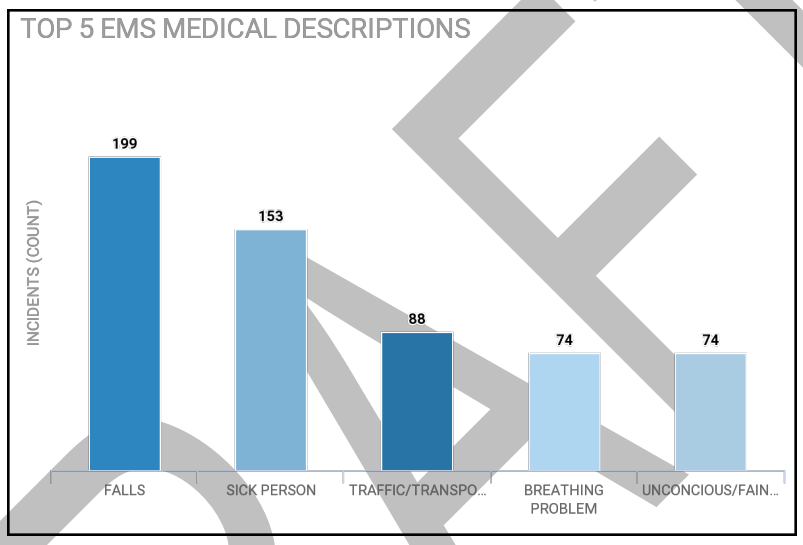


Chart 34 - Top 5 EMS Medical Calls - 2020

Cottonwood Heights – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	24	47.1%
Natural Vegetation Fire	7	13.7%
Outside Rubbish Fire	13	25.5%
Vehicle Fire	2	3.9%

NFIRS Description	Incident Count	% of Incidents
Crop Fire	1	2.0%
Fire, Other	3	5.9%
Mobile Property Fire	1	2.0%
Total	51	100%

Table 75 – Cottonwood Heights 2020 Incidents by Dispatch Type

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Cottonwood Heights – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	7	0	6	0	13
Commercial/Industrial	4	7	9	8	28
Educational	0	3	5	0	8
Government	2	0	0	0	2
Healthcare	1	2	3	0	6
Hazardous	Unknown	Unknown	Unknown	Unknown	65
Storage	0	0	0	0	0
Residential	1,473	5,456	1,988	22	8,939
Residential – Multi Unit	54	217	68	3	342
High Rise	N/A	N/A	1	4	5
Total	1,541	5,685	2,080	37	9,408

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

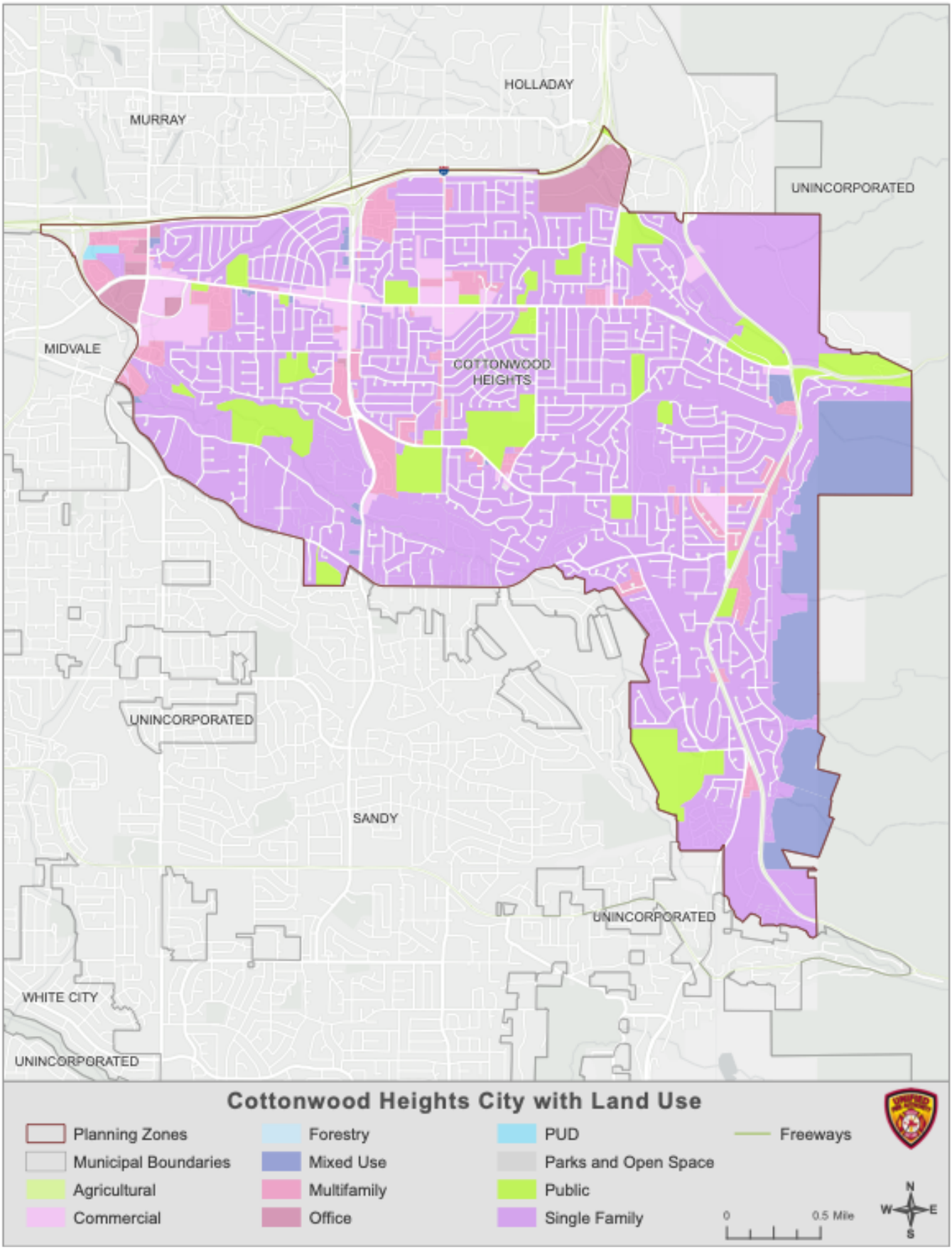
Table 76 – Cottonwood Heights Building Occupancy and Risk Categories

Building Size / Considerations

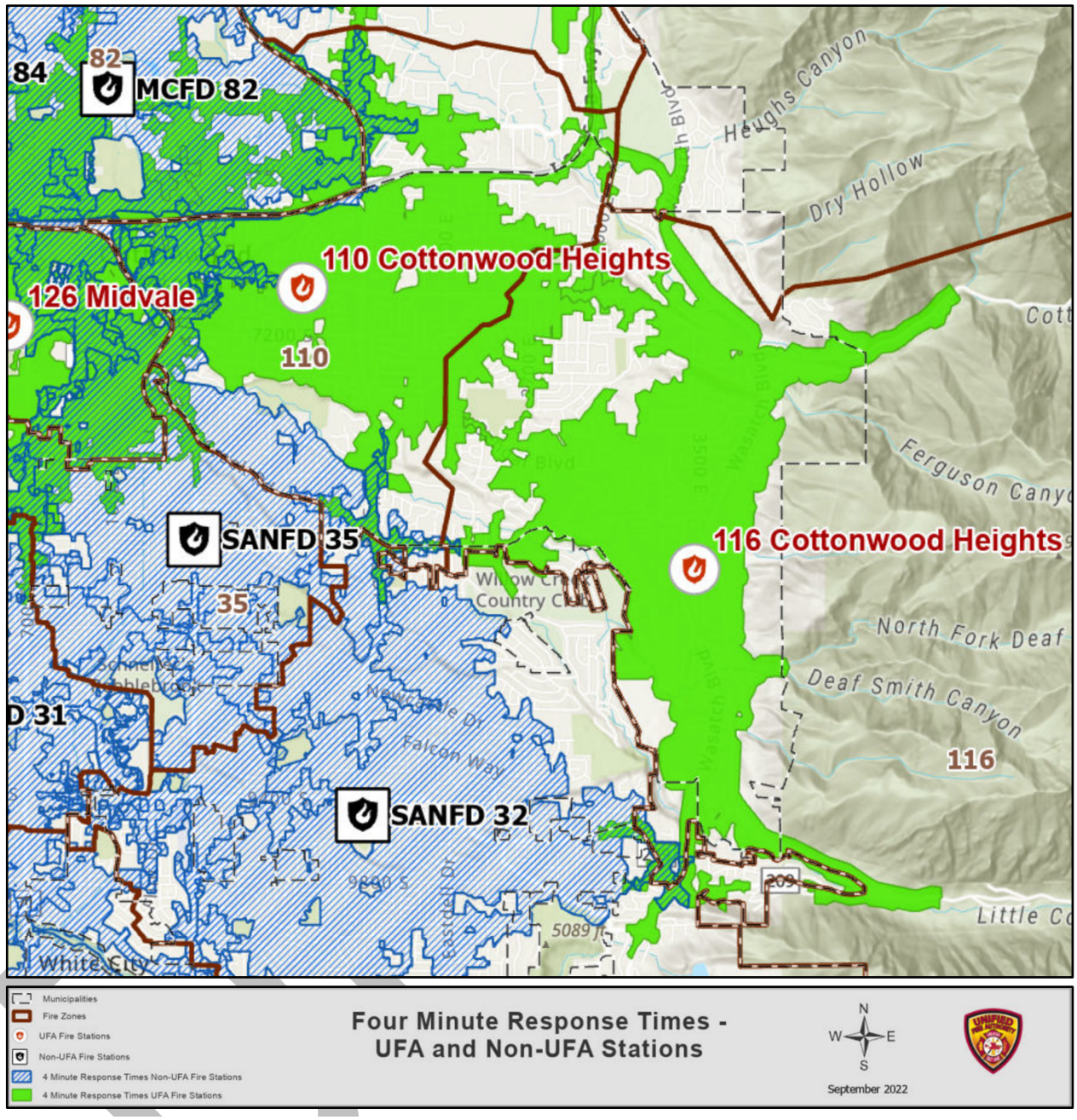
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

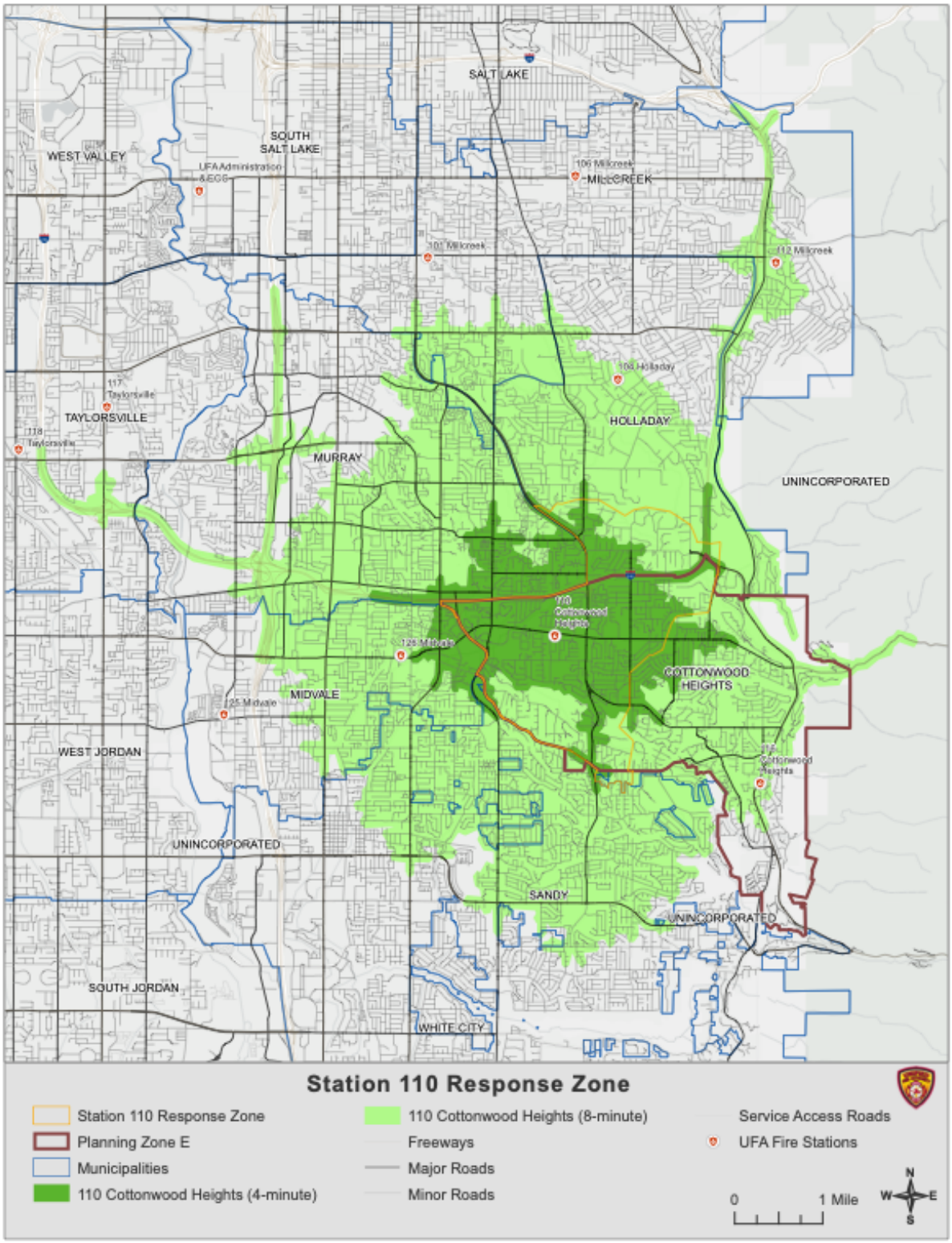
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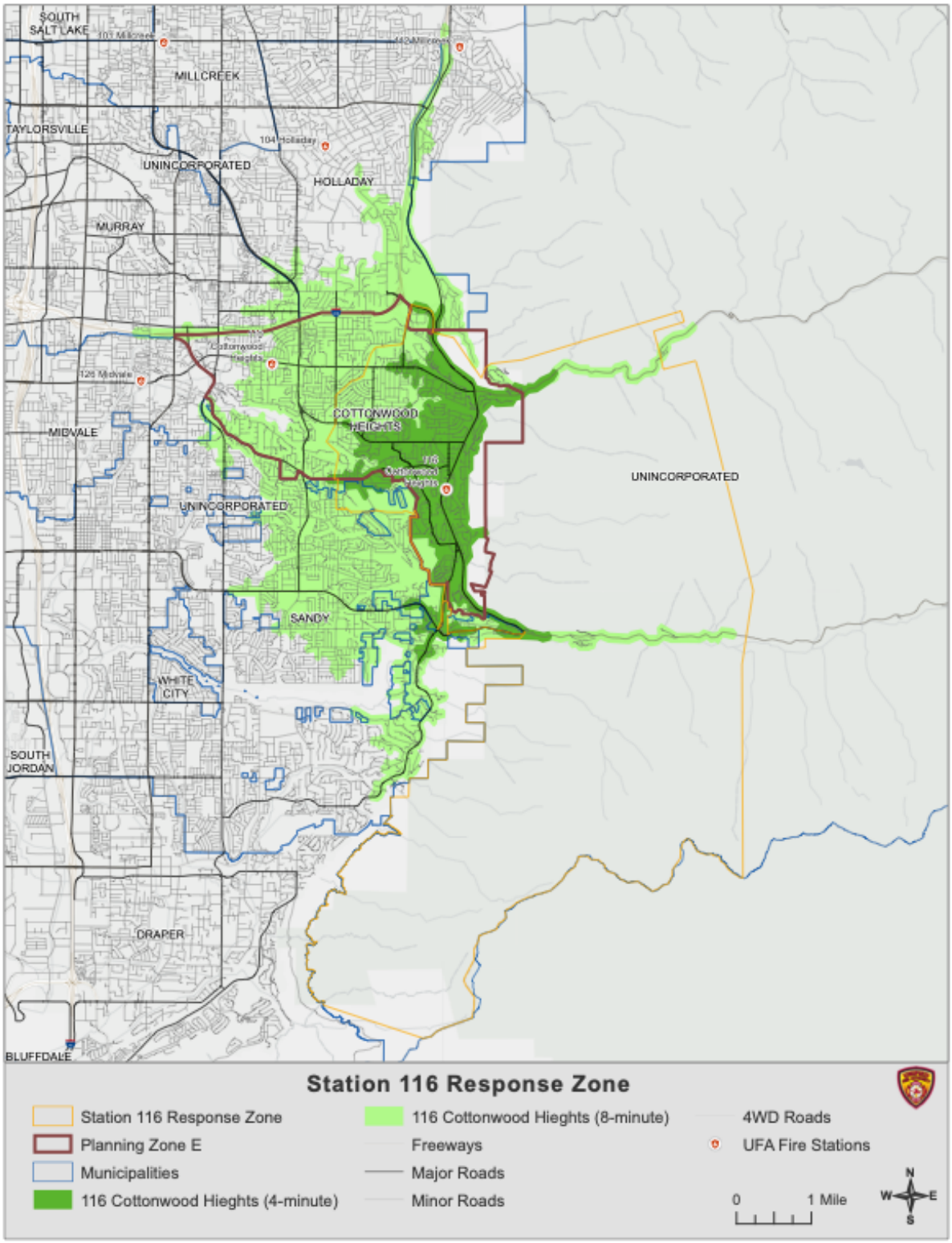
Map 106 – Cottonwood Heights with Land Use



Map 107 - 4-Minute Travel Times, UFA and Aid



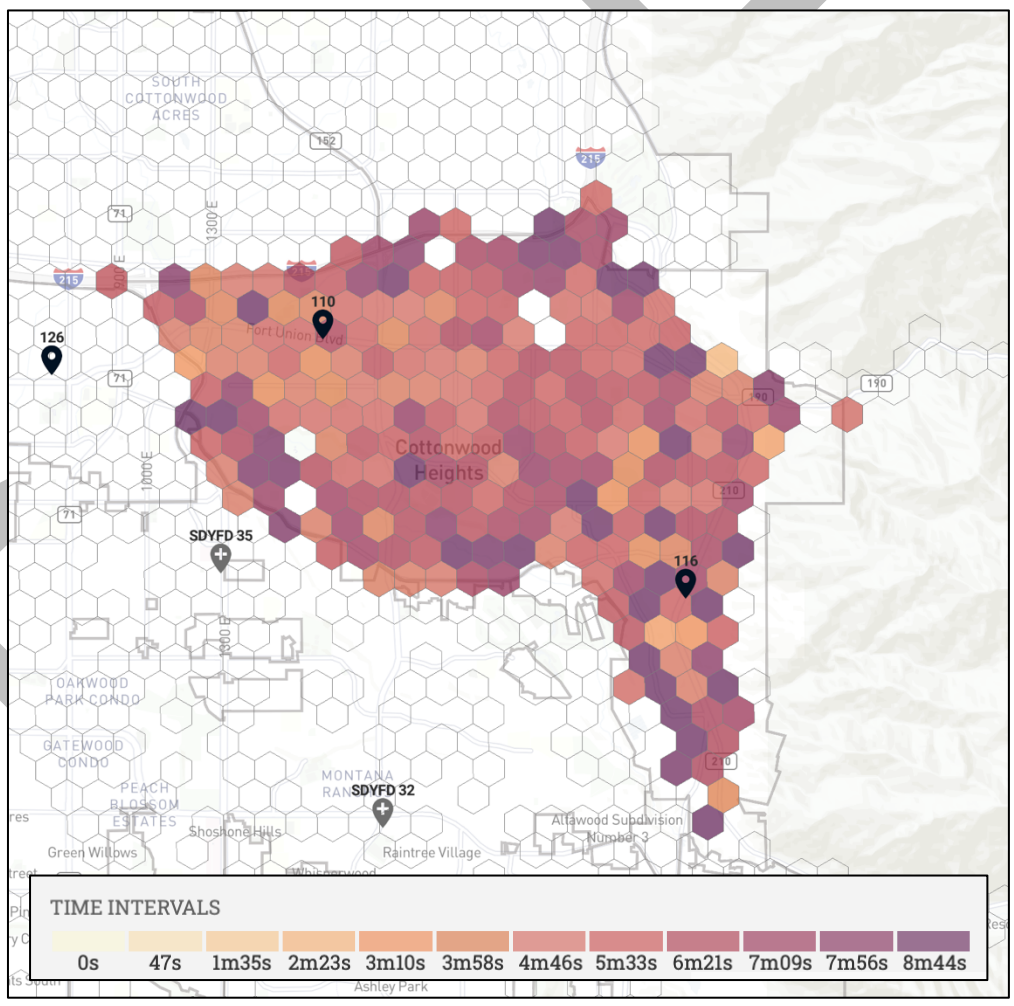
Map 108 - Station 110 4- and 8-Minute Travel Times



Map 109 - Station 116 4- and 8-Minute Travel Times

Cottonwood Heights – First Arriver Travel Times

The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within Cottonwood Heights, the 90th percentile drive time is 8:18 for fire and 6:30 for EMS, or a combined 90th percentile drive time of 6:36.

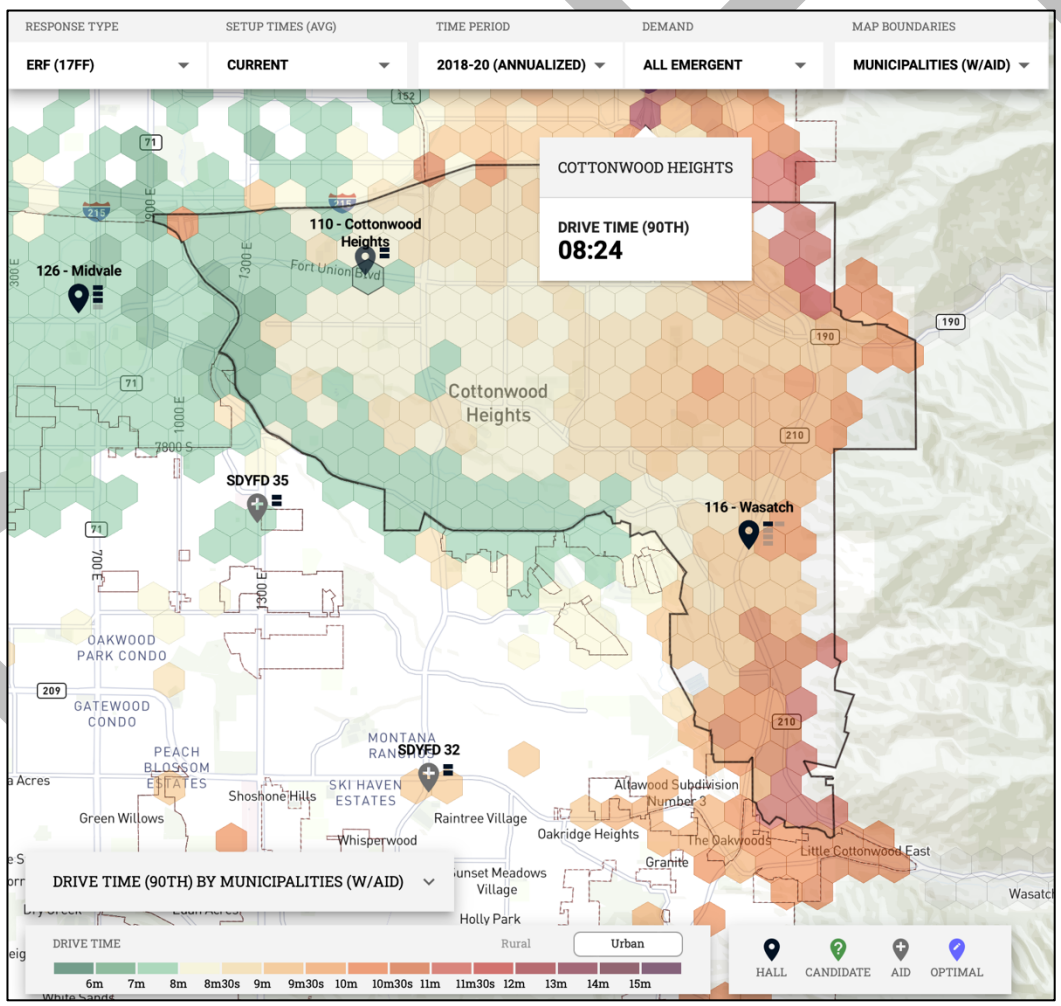


Map 110 – Cottonwood Heights Response Times – All Aid

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Cottonwood Heights – Residential Fire Effective Response Force (17 FF)

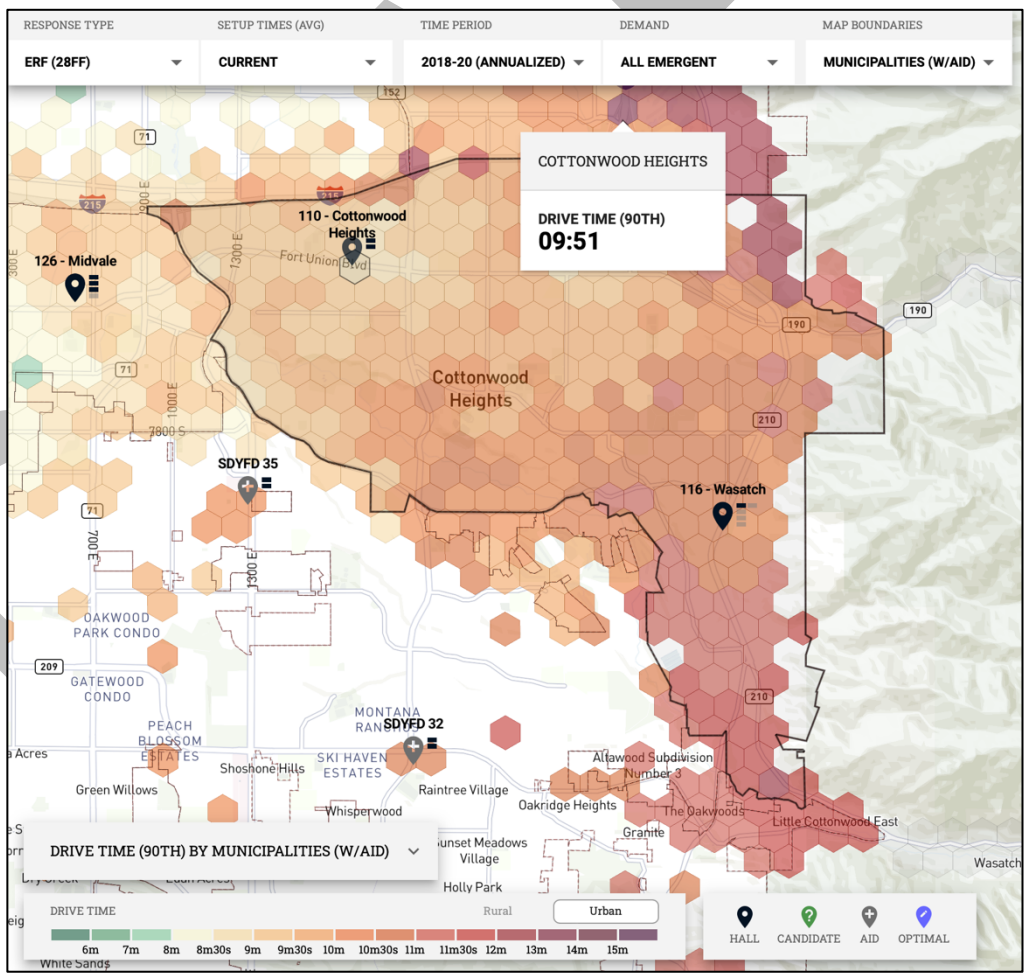
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 8:24.



Map 111 – Cottonwood Heights Response Times – Residential Fire Effective Response Force (17 ERF)

Cottonwood Heights – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 09:51.



Map 112 – Cottonwood Heights Response Times – Commercial Fire Effective Response Force (28 FF)

Cottonwood Heights Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Mod	Mod	Mod	High	Low	High	Mod	Mod	Low	Mod	High	Mod

Table 77 – Cottonwood Heights Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Cottonwood Heights or directly bordering Cottonwood Heights. I-215 runs on the north border of the city. Several arterials and state roads also run through Cottonwood Heights, with Fort Union Blvd, Highland Drive, 2300 East, Bengal Blvd, Wasatch Blvd, and State Roads 190 (Big Cottonwood Canyon) and State Road 210 (Little Cottonwood Canyon). There are 8.5 linear miles of Interstate/US Highway, 5.33 linear miles of State Highways, and 152.1 total linear miles of roadway. UTA also runs bus routes through the city, with the main bus routes running on Fort Union Blvd, as well as routes into Big and Little Cottonwood Canyons. Cottonwood Heights is in the moderate-risk category for road infrastructure.

Infrastructure – Water

There are several water districts within Cottonwood Heights, including the Cottonwood Improvement District, and the Jordan Valley Water Conservancy District.

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Infrastructure – Dams

There are six identified dams within Cottonwood Heights. Cottonwood Heights is in the moderate-risk category for dam infrastructure.

Natural Hazards

Within Cottonwood Heights, there are no concerns with avalanche areas, however there are several areas that Cottonwood Heights units respond to that have avalanche as well as backcountry rescue potential within Unincorporated Salt Lake County. Cottonwood Heights is in the low-risk category for avalanche. There are several fault lines that run north-south through the city (see Map 8) and are components of the Wasatch Fault. Cottonwood Heights is in the moderate-risk category for liquefaction and high-risk category for fault lines. There is around 75,100 linear feet of fault lines in Cottonwood Heights. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Cottonwood Heights, with an estimated 2,902 URM's, which constitutes about 11.82% of the overall URM's within UFA's response areas. Cottonwood Heights is in the high-risk category for unreinforced masonry.

Wildland Urban Interface

There is medium risk of urban interface fires within Cottonwood Heights, although on the eastern border of Cottonwood Heights, there is high risk of urban interface fires within Unincorporated Salt Lake County. Cottonwood Heights is in the moderate-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are eight identified HazMat/Tier II Sites within Cottonwood Heights, which is in the moderate-risk category.

Hospitals

Cottonwood Heights has no standalone hospitals, which places it in the low-risk category.

Schools

Cottonwood Heights has five elementary schools, one middle schools, and one high school within city boundaries, which places it in the moderate-risk category.

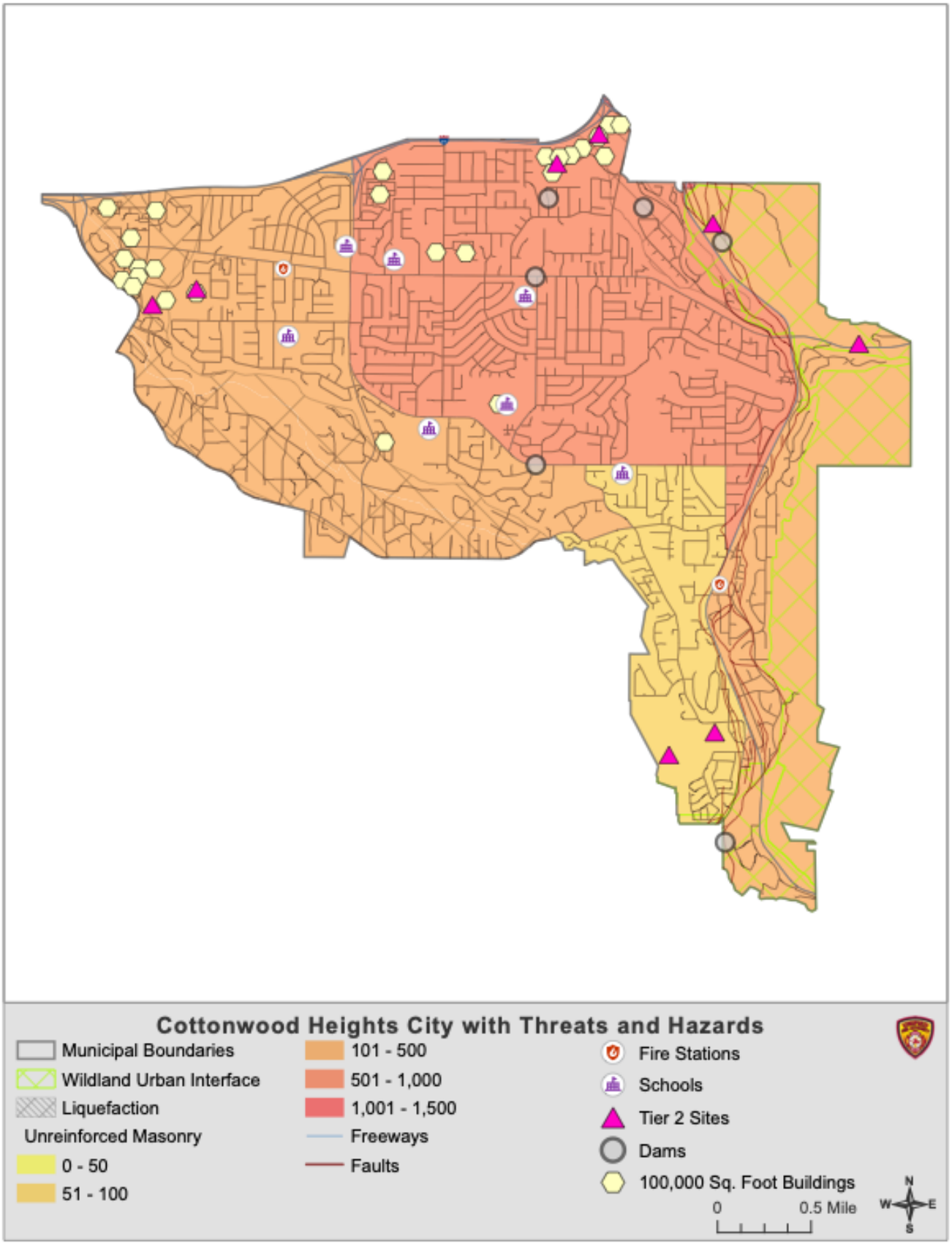
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Target Hazards – Structures

Some of the target hazard occupancies in Cottonwood Heights include:

- Metropolitan Water District of Sandy & Salt Lake – 3430 Danish Road
- Big Cottonwood Treatment Plant – 4101 E Big Cottonwood Canyon Road
- Praxair – 6880 S 2300 E

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Map 113 – Cottonwood Heights with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $2,068,827.00 of property loss and a total estimate of $597,902.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has a swift water team, ice rescue team, as well as a dive rescue team. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house Water Rescue Companies.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Eagle Mountain City

Community Risk Assessment



Photo Courtesy of: Eagle Mountain City

EAGLE MOUNTAIN

UNIFIED FIRE AUTHORITY
GREATER
SALT LAKE

Eagle Mountain Planning Zone

UFA has two stations within the City of Eagle Mountain Planning Zone covering a total of 50.43 square miles with a population of 43,623 and responded to 1,455 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Eagle Mountain	43,623	9.67%	50.43	865	Urban

Eagle Mountain has increased its population from 21,931 in 2010 to 43,623 in 2020, showing an increase of 49.73% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, the following chart demonstrates that Eagle Mountain City could increase its population to 85,581 by the year 2040.

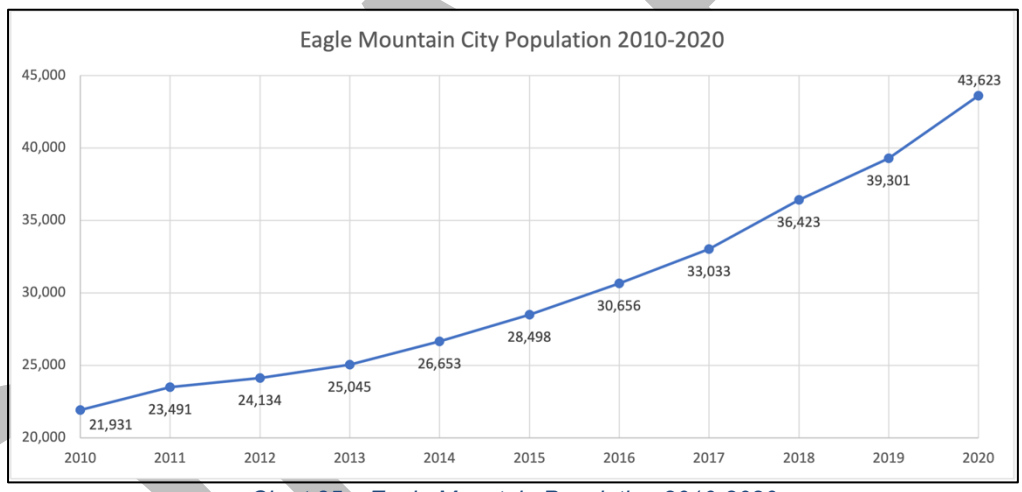


Chart 35 – Eagle Mountain Population 2010-2020

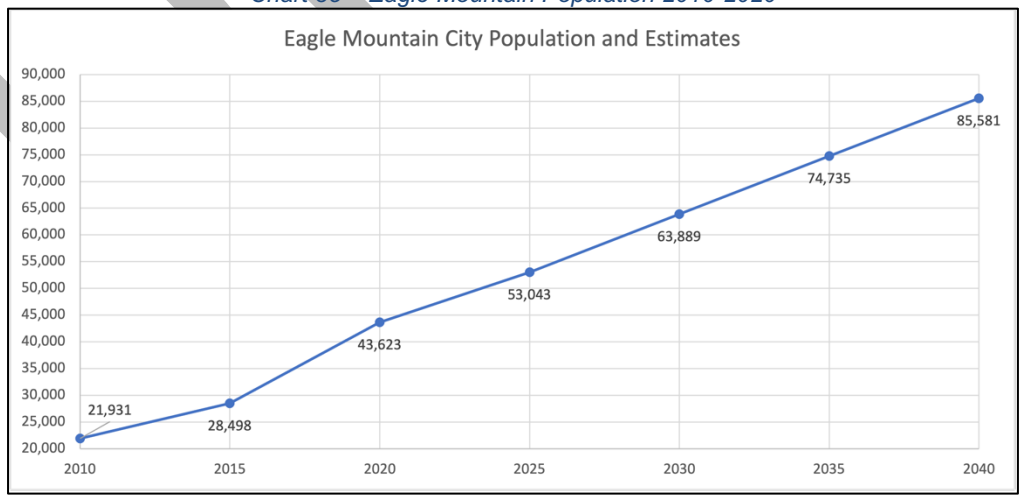


Chart 36 – Eagle Mountain Population and Estimates 2010-2040

Eagle Mountain Station Information

Station 251 information:

- Owner – UFSA
- Opened – 1997/2016
- Address – 1680 E. Heritage Drive
- Staffing and Apparatus –
  - Type 1/3, ME 251 (3 persons)
  - MA 251 (cross-staffed)



Image 9 – Eagle Mountain Station 251

Station 252 information:

- Owner – UFSA
- Opened – 2002
- Address – 3785 E. Pony Express Parkway
- Staffing and Apparatus –
  - Type 1, ML 252 (4 persons)
  - MA 252 (2 persons)
  - Type 6, Brush Truck (cross-staffed)



Image 10 – Eagle Mountain Station 252

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Eagle Mountain are:

- Saratoga Springs Station 261, with a two-person ladder and a two-person medic ambulance

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- Saratoga Springs Station 262, with a two-person engine and a two-person medic ambulance

Eagle Mountain – Incidents by Dispatch Type

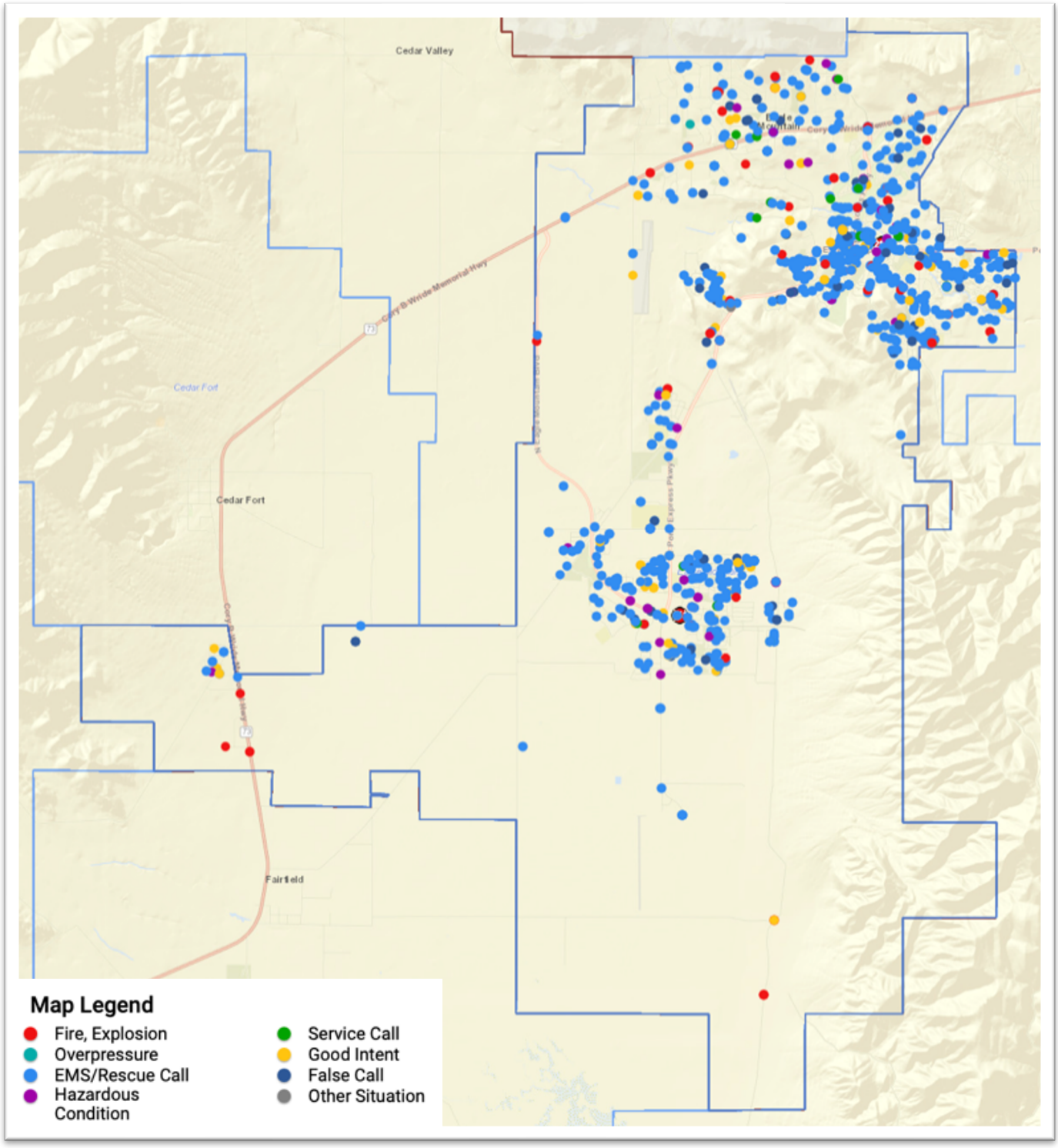
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	51	35	54
EMS	833	720	569
Hazardous Materials	37	46	36
Service Calls	22	29	18
Good Intent	253	223	216
False Calls	81	116	110
Other (Misc., Flood, Overpressure)	2	5	2
Total	1,279	1,174	1,005
Cancelled	176	185	188
Overall Total	1,455	1,359	1,193

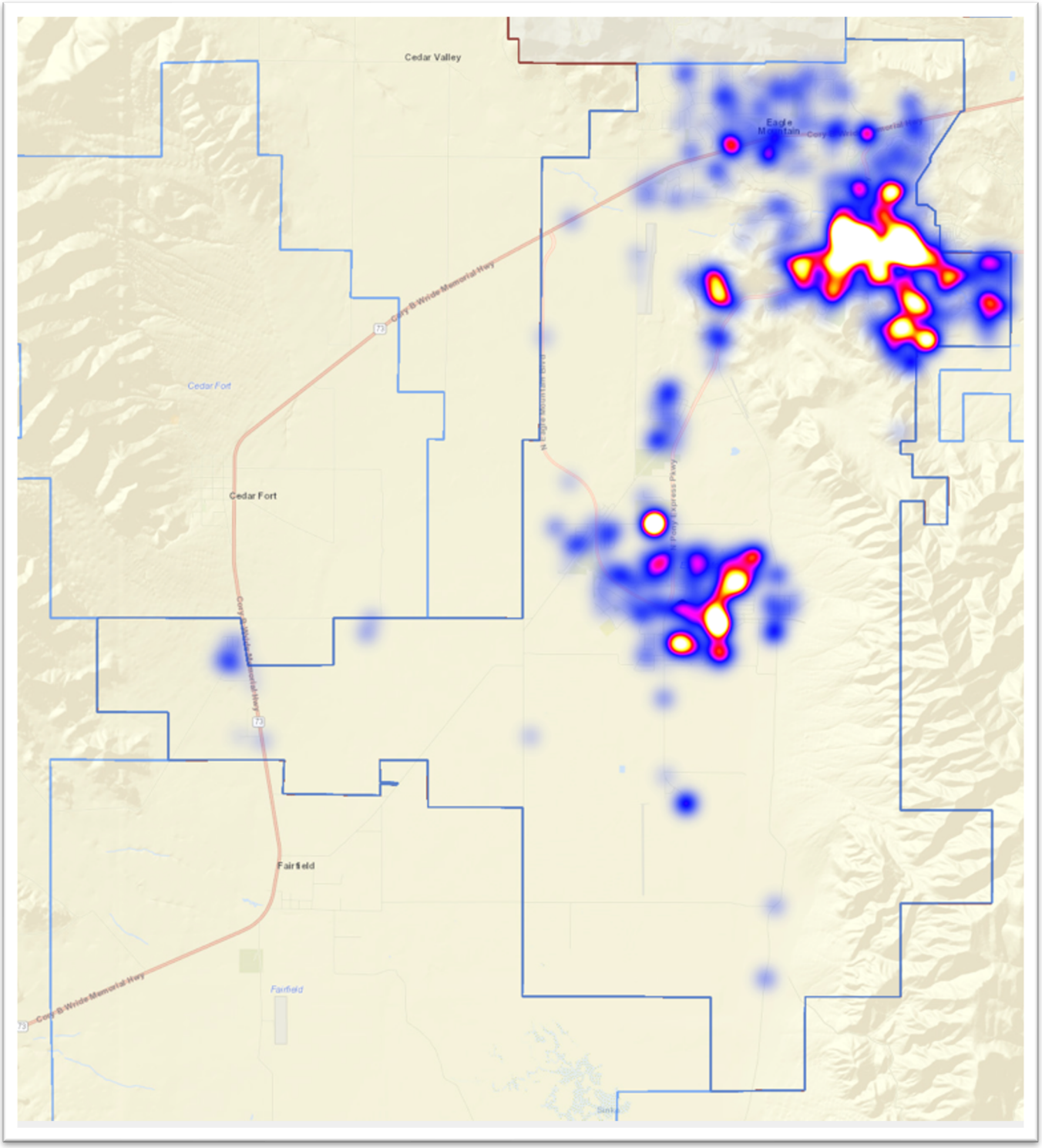
Table 78 – Eagle Mountain Call Types

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Eagle Mountain – 2020 Incidents and Heat Map



Map 114 – Eagle Mountain Incident Calls by Type



Map 115 – Eagle Mountain Incident Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

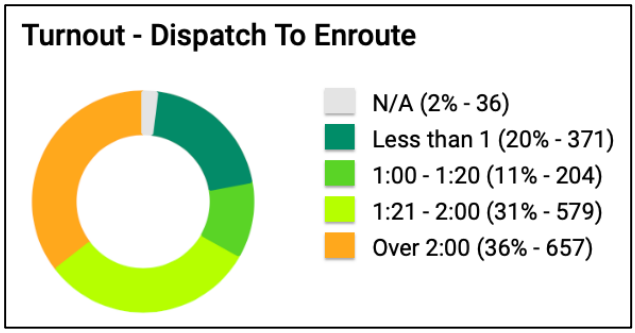
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

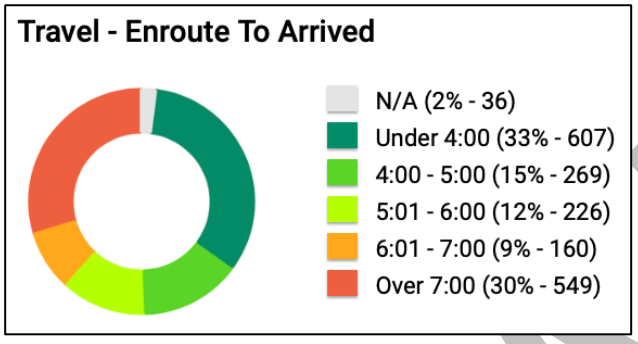
– Of Note…

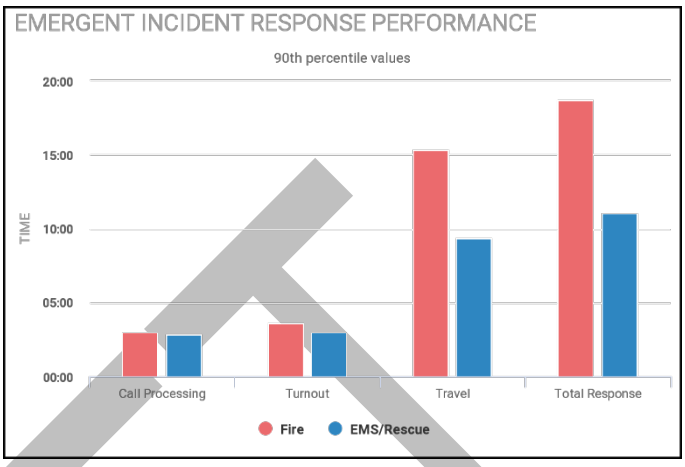
NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

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Eagle Mountain – 2020 Dispatch and Response Times





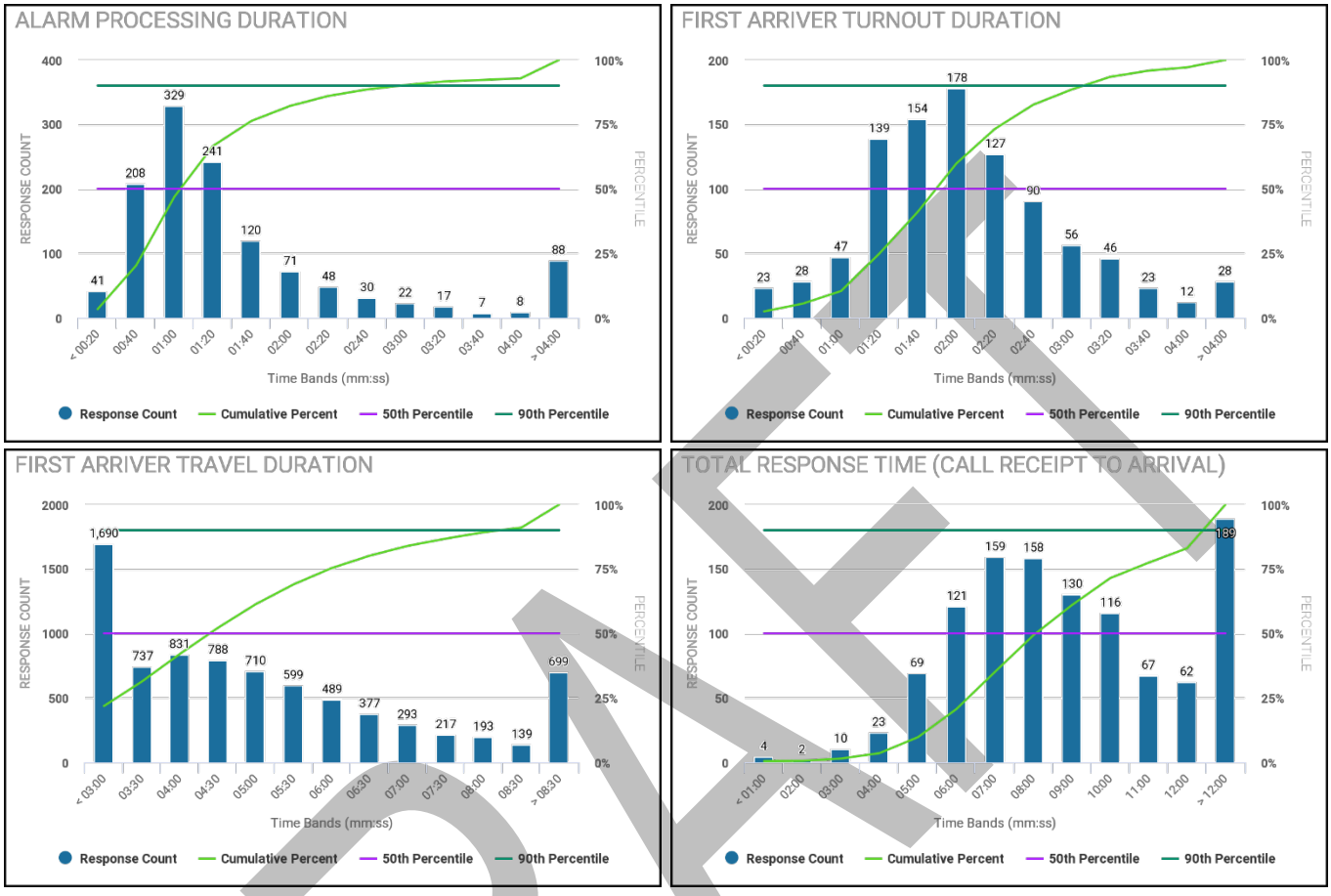


Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Eagle Mountain	2:28	3:17	12:13	16:48	1:34	3:03	9:07	11:42
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 79 – Eagle Mountain 2020 Emergent Response Times, 90th percentile values

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Eagle Mountain – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Eagle Mountain (90th percentile). The alarm processing for fire was 2:28 and 1:34 for EMS; turnout time was 3:17 for fire responses and 3:03 for EMS responses; travel time was 12:13 for fire responses and 9:07 for EMS. The 90th percentile total response time was 16:48 for fire and 11:42 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Eagle Mountain – 2020 Incidents by Time of Day

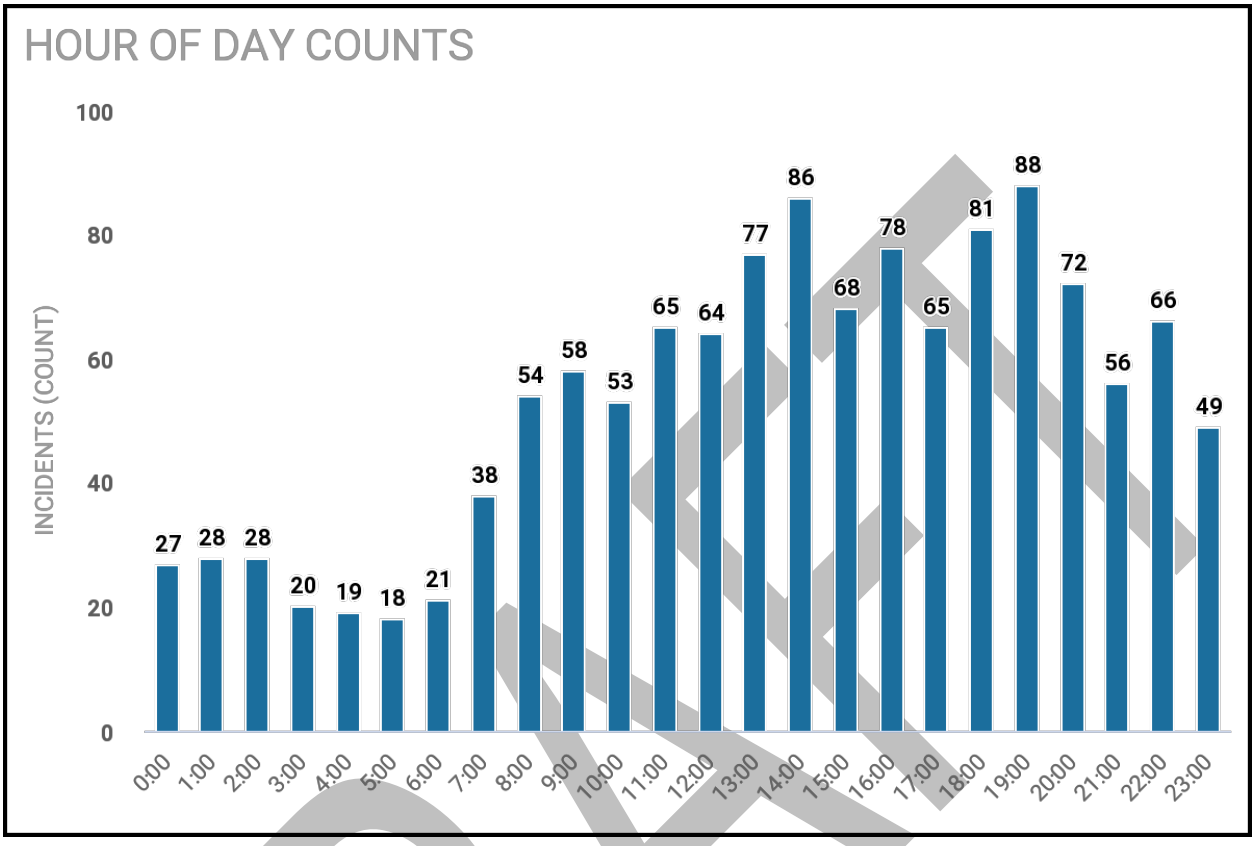


Chart 37 –Eagle Mountain 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Eagle Mountain for all service calls. This chart illustrates that the greatest demand for service delivery begins to increase at 7:00 AM and starts to decrease at 7:00 PM.

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Eagle Mountain – 2020 Incidents by Day of Week

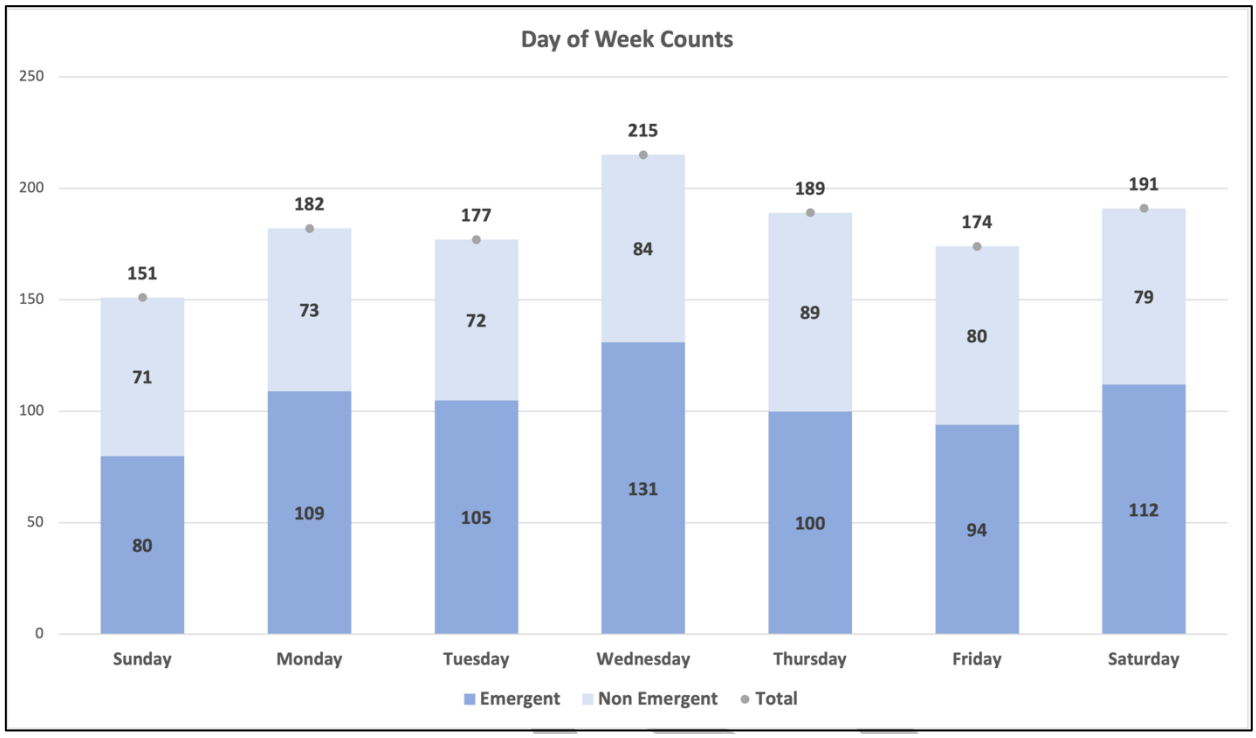


Chart 38 – Eagle Mountain Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with Wednesdays having the most overall calls in Eagle Mountain.

Eagle Mountain – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	444	425	325
BLS Transports	417	317	212
Scene Release	24	15	48
Public Assistance	5	1	2
EMS Total Calls	885	757	585
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 80 – Eagle Mountain EMS Calls

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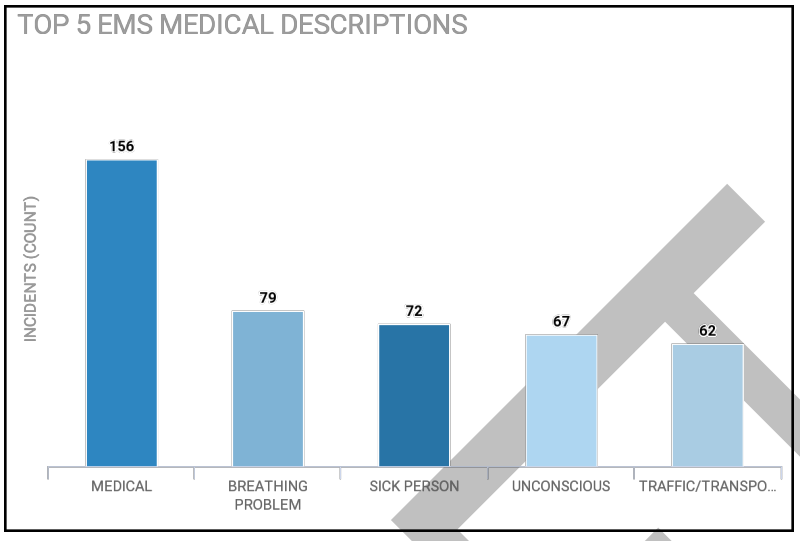


Chart 39 - Top 5 EMS Medical Calls - 2020

Eagle Mountain – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	12	23.5%
Outside Rubbish Fire	5	9.8%
Special Outside Fire	4	7.8%
Mobile Property Fire	1	2.0%

NFIRS Description	Incident Count	% of Incidents
Natural Vegetation Fire	22	43.1%
Vehicle Fire	3	5.9%
Fire, Other	4	7.8%
Total	51	100%

Table 81 – Eagle Mountain 2020 Incidents by Dispatch Type

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Eagle Mountain – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	0	0	1	24	25
Commercial/Industrial	14	0	28	11	53
Educational	0	0	7	1	8
Government	0	0	0	0	0
Healthcare	0	1	0	0	1
Hazardous	Unknown	Unknown	Unknown	Unknown	30*
Storage	0	0	0	1	1
Residential	498	6,747	1,167	10	8,422
Residential – Multi Unit	600	41	11	4	656
High Rise	N/A	N/A	0	0	0
Total	1,122	6,789	1,214	51	9,196

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

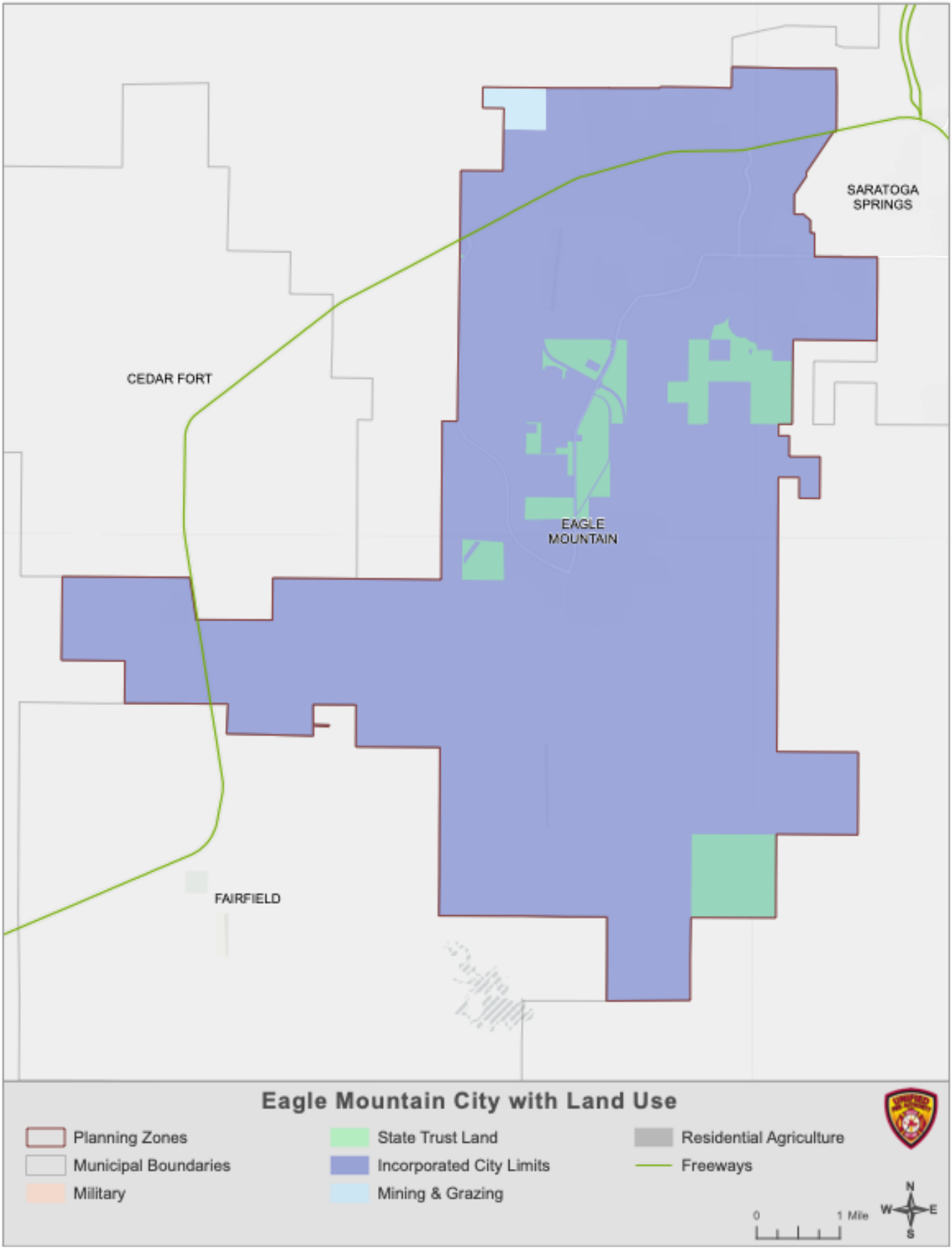
Table 82 – Eagle Mountain Building Occupancy and Risk Categories

Building Size / Considerations

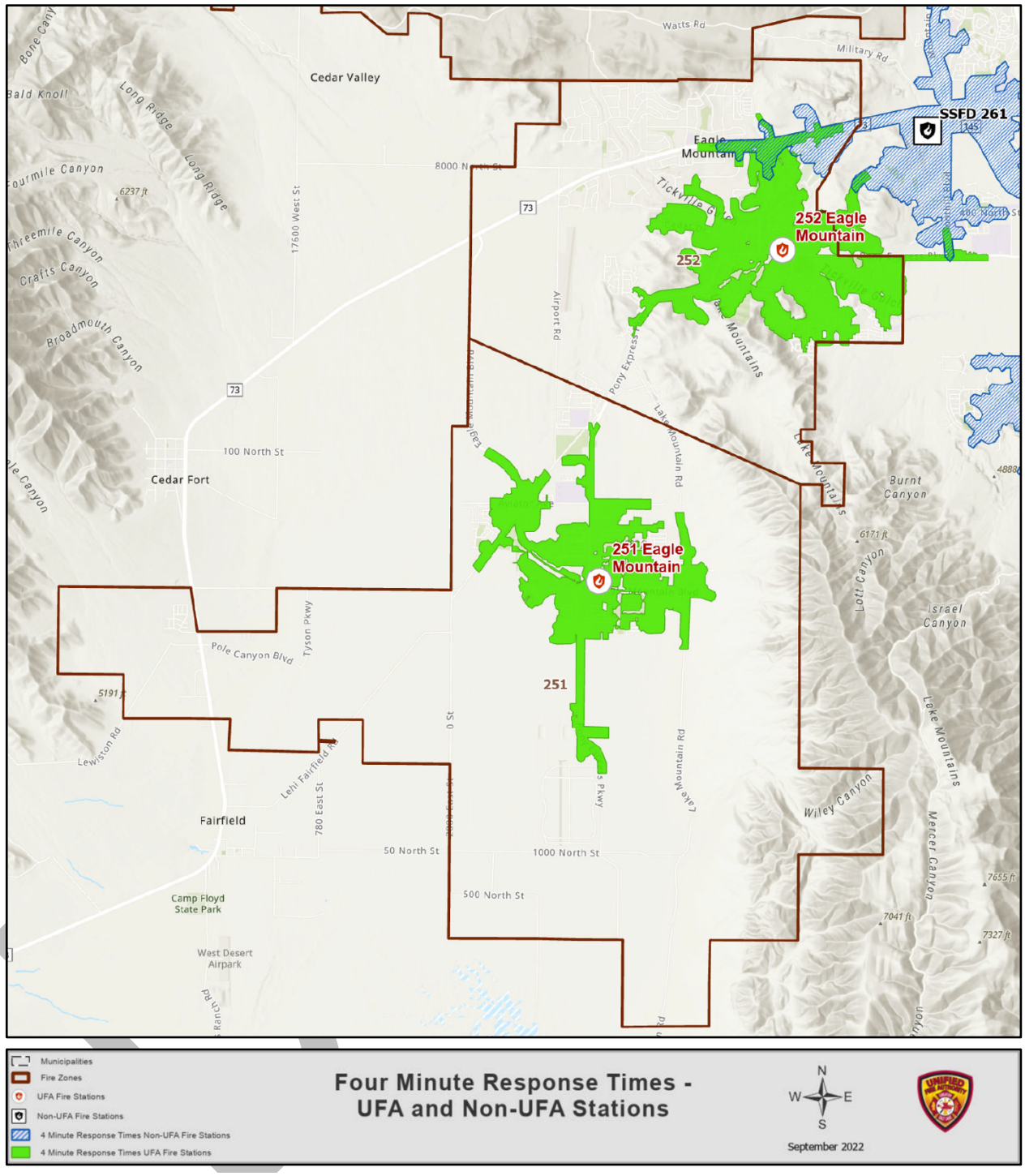
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

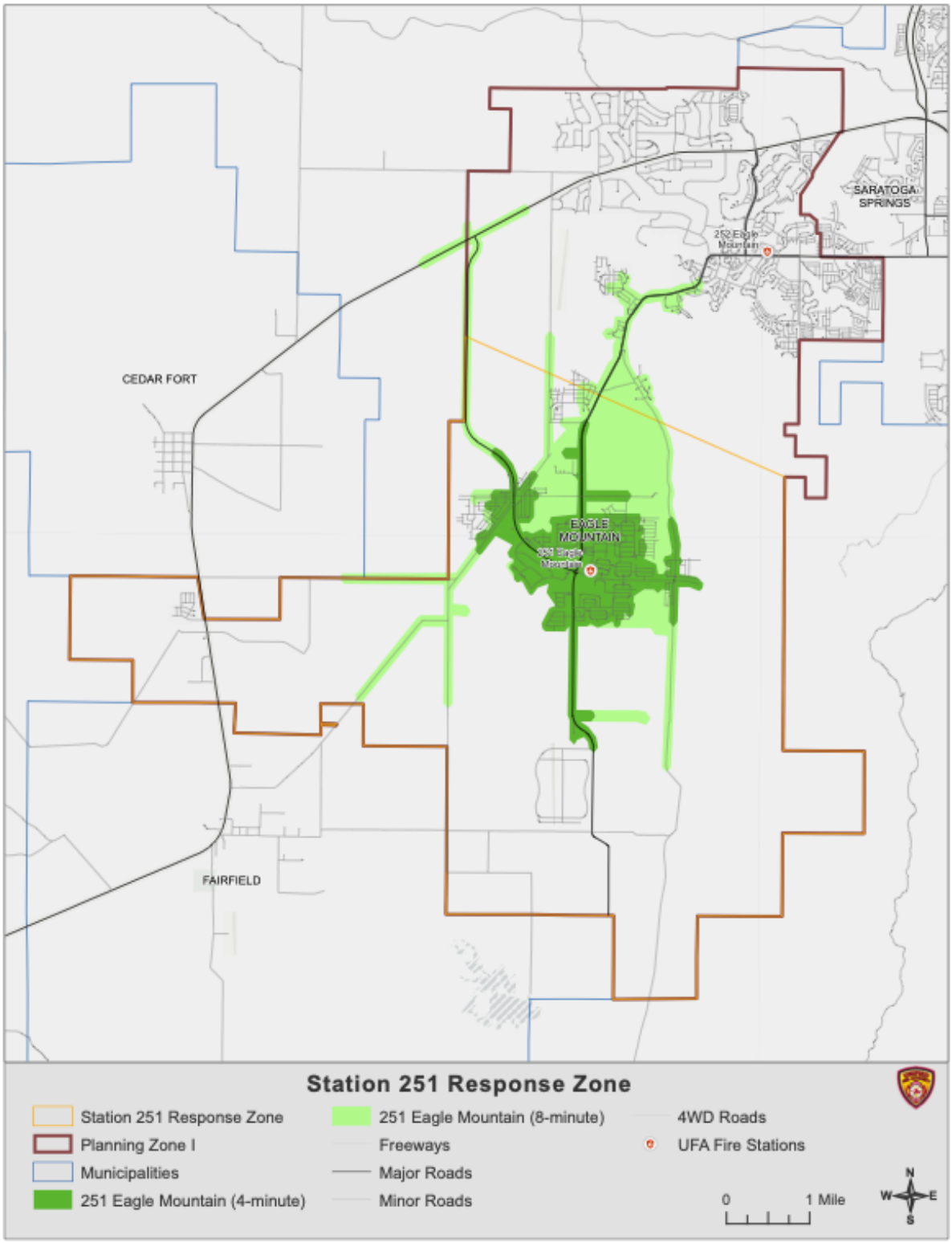
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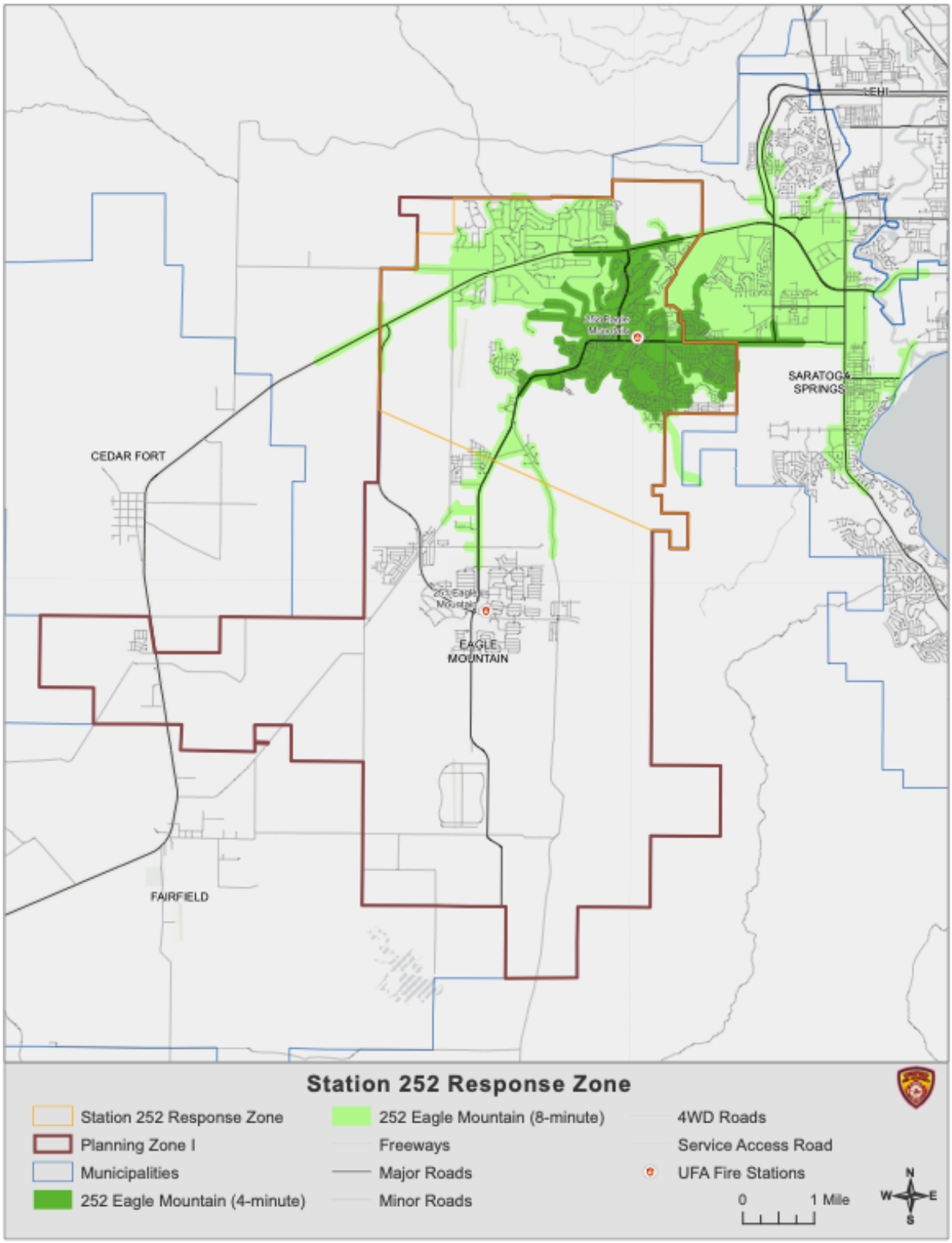
Map 116 – Eagle Mountain with Land Use



Map 117 - 4-Minute Travel Times, UFA and Aid



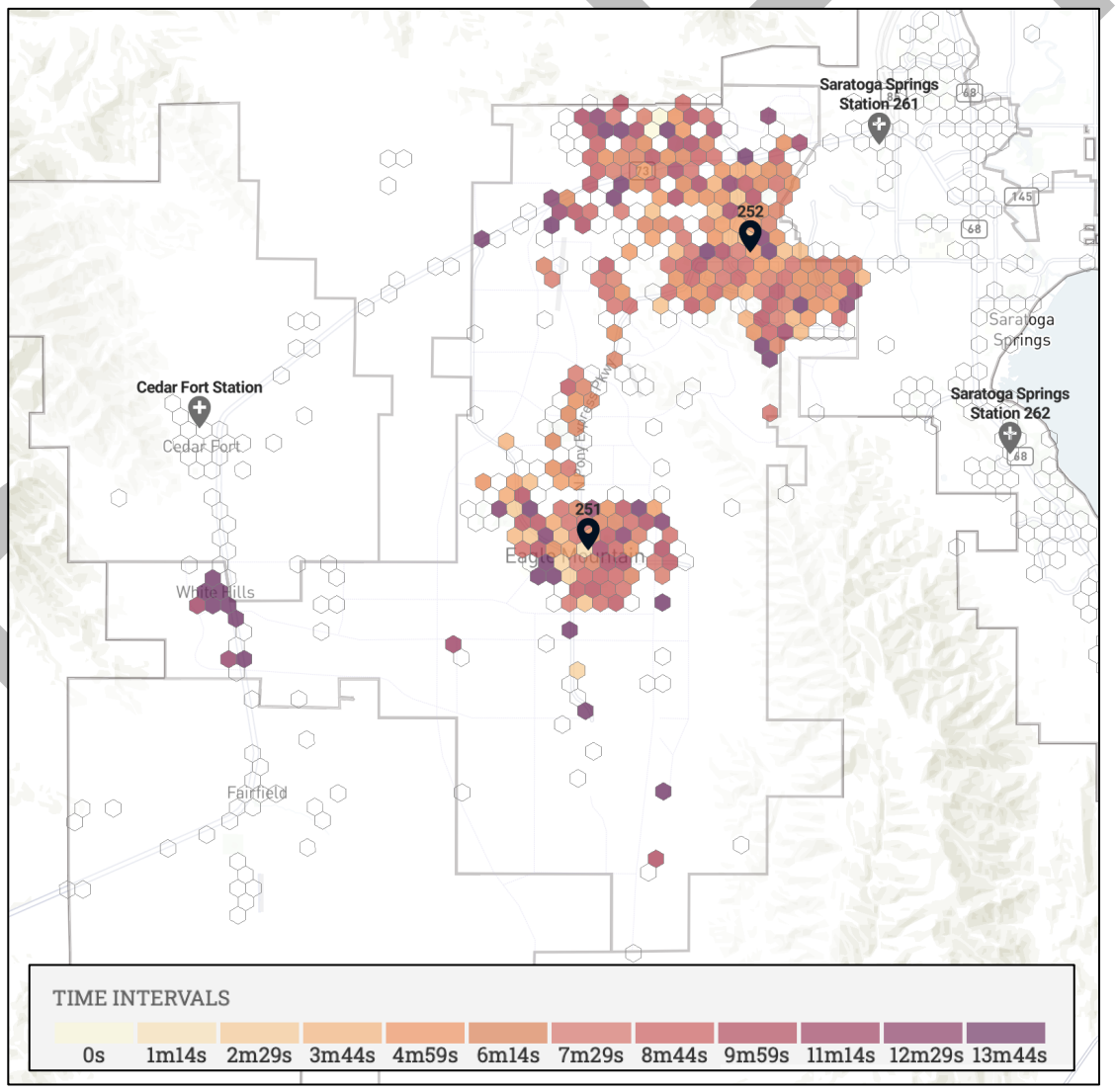
Map 118 - Station 251 4- and 8-Minute Travel Times



Map 119 - Station 252 4- and 8-Minute Travel Times

Eagle Mountain – First Arriver Travel Times

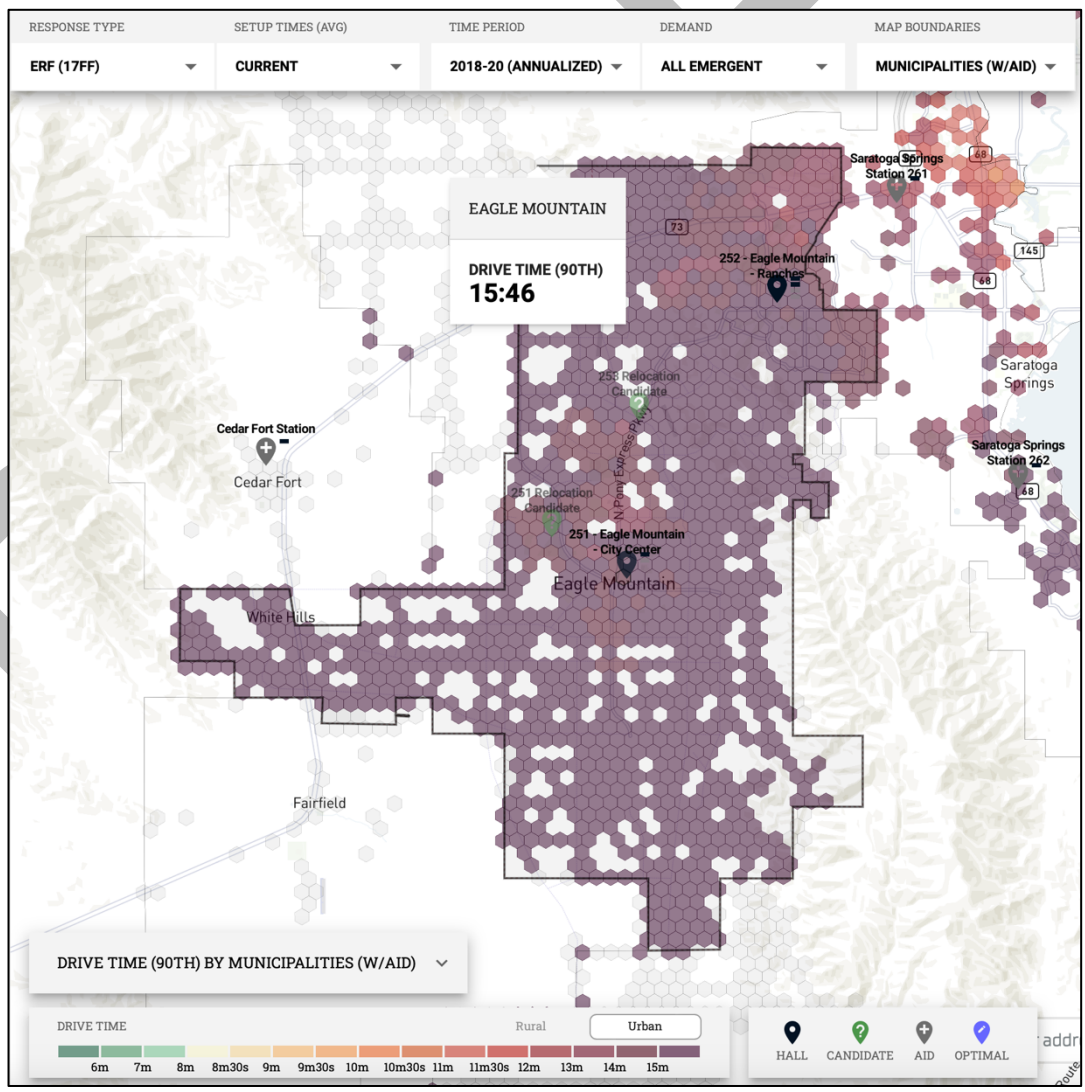
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within Eagle Mountain, the 90th percentile drive time is 12:13 for fire and 9:07 for EMS, or a combined 90th percentile drive time of 9:53.



Map 120 – Eagle Mountain Response Times – All Aid

Eagle Mountain – Residential Fire Effective Response Force (17 FF)

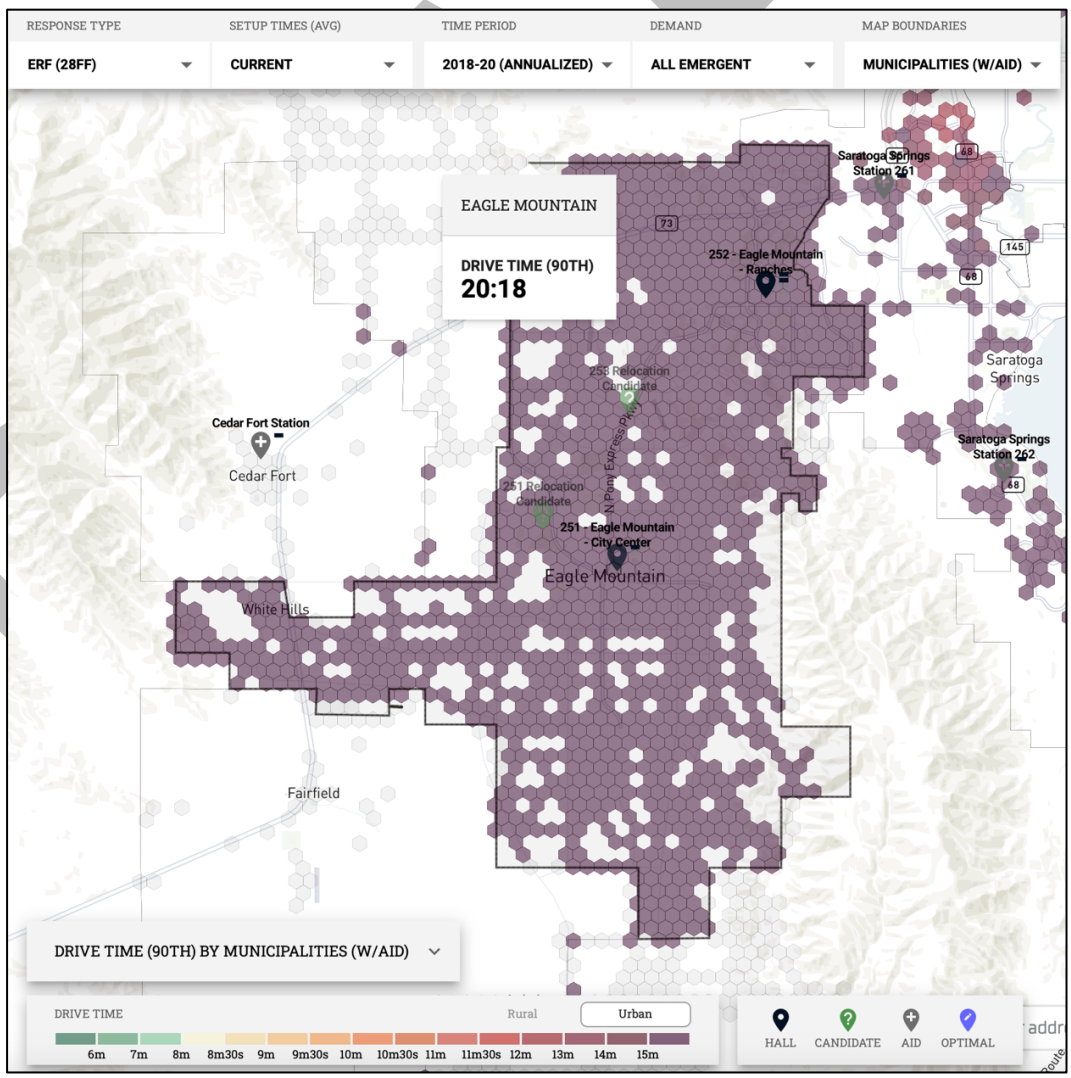
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 15:46.



Map 121 – Eagle Mountain Response Times – Residential Fire Effective Response Force (17 ERF)

Eagle Mountain – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 20:18.



Map 122 – Eagle Mountain Response Times – Commercial Fire Effective Response Force (28 FF)

Eagle Mountain Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
High	Mod	Low	Low	Low	Mod	High	Mod	Low	Mod	Low	Mod

Table 83 – Eagle Mountain Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

The primary roadway that runs through Eagle Mountain City is State Road 73 which runs east/west between Redwood Road and the Tooele County border. There are 0 linear miles of Interstate/US Highway, 6.82 linear miles of State Highways, and 226.5 total linear miles of roadway. Eagle Mountain is in the high-risk category for road infrastructure.

Infrastructure – Water

There is one water district within Eagle Mountain City, the Eagle Mountain Water Department.

Infrastructure – Dams

There are four identified dams within Eagle Mountain City. Eagle Mountain is in the moderate-risk category for dam infrastructure.

Natural Hazards

Within Eagle Mountain City, there are low concerns with avalanche areas, placing it in the low-risk category for avalanche. There are no identified fault lines that run through the

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city (see Map 8). Eagle Mountain is in the low-risk category for liquefaction and low-risk category for fault lines.

Wildland Urban Interface

There is high risk of urban interface fires within Eagle Mountain. Eagle Mountain is in the high-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are six identified HazMat/Tier II Sites within Eagle Mountain City, which is in the moderate-risk category.

Hospitals

Eagle Mountain has no hospitals. This places Eagle Mountain in the low-risk category for hospitals.

Schools

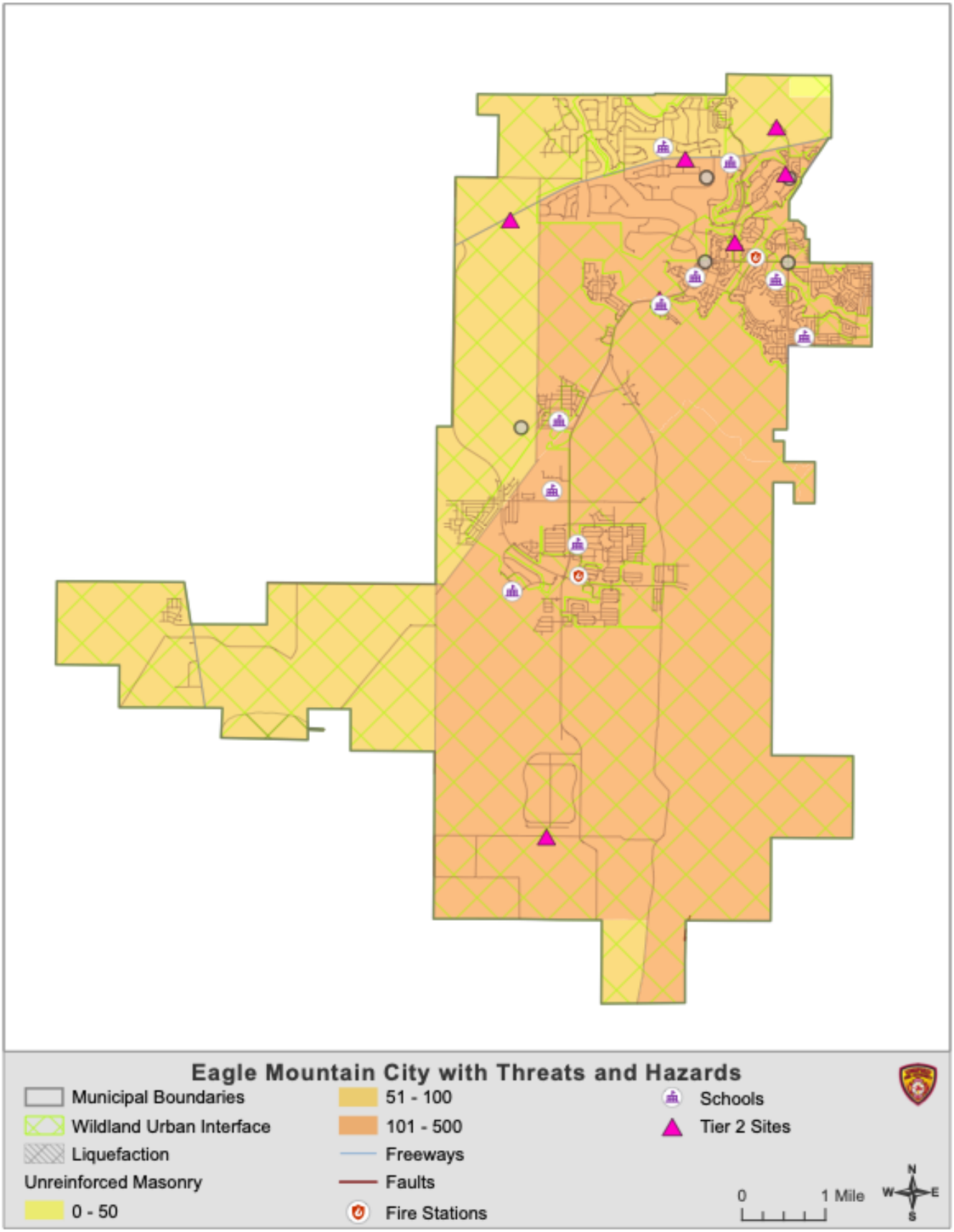
Eagle Mountain has seven elementary schools, two middle schools, two charter schools and one high school within city boundaries, which places it in the moderate-risk category.

Target Hazards – Structures

Some of the target-hazard occupancies in Eagle Mountain include:

- Tyson Foods – 3817 N Tyson Pkwy
- Facebook Eagle Mountain Data Center – 1275 North Community Circle

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Map 123 – Eagle Mountain with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $450,936.00 of property loss and a total estimate of $501,592.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Emigration Township

Community Risk Assessment



EMIGRATION TOWNSHIP
EST. 1846

UNIFIED FIRE AUTHORITY
GREATER SALT LAKE

Emigration Township Planning Zone

UFA has one station within the Emigration Township Planning Zone covering a total of 18.98 square miles with a population of 1,466 and responded to 103 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Emigration Township	1,466	0.33%	18.98	77	Rural

Emigration Township has decreased its population from 1,567 in 2010 to 1,466 in 2020, showing a decrease of 6.89% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, the following chart demonstrates that Emigration Township could decrease its population to 1,292 by the year 2040.

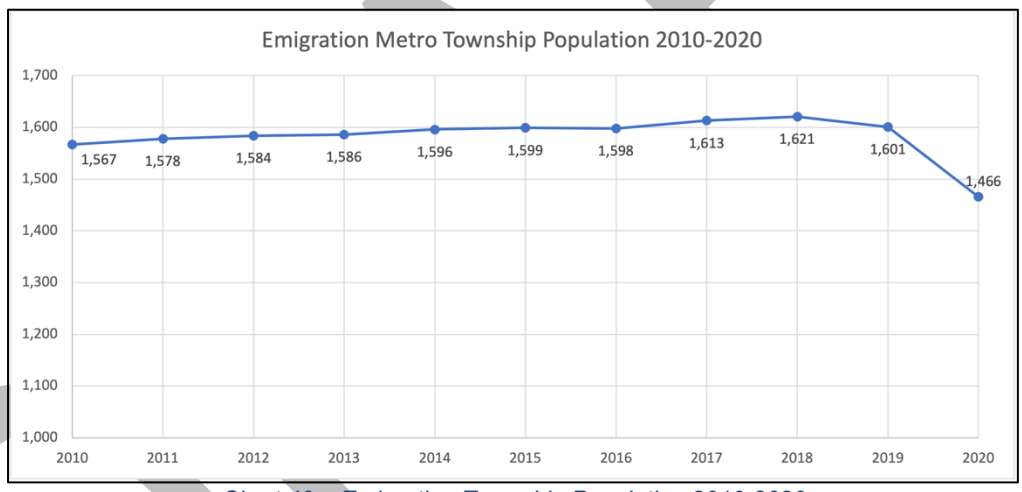


Chart 40 – Emigration Township Population 2010-2020

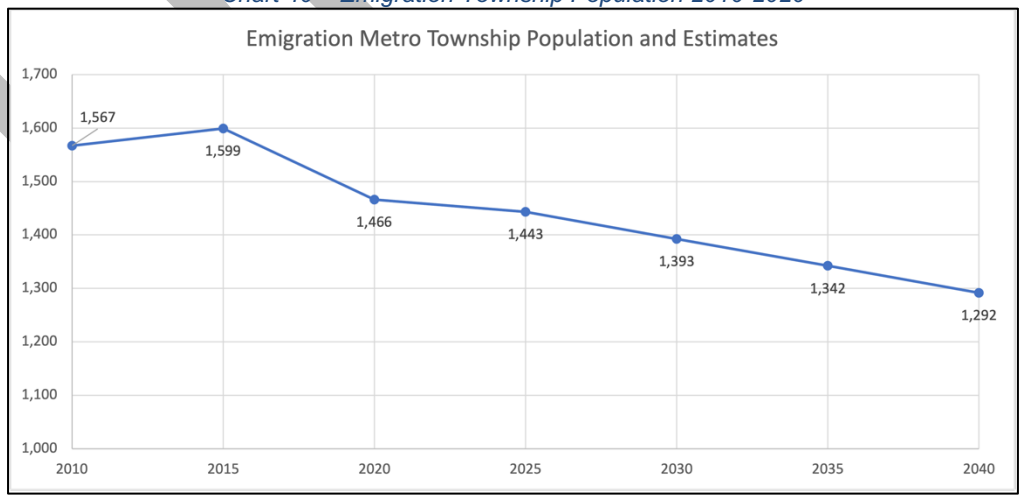


Chart 41 – Emigration Township Population and Estimates 2010-2040

Emigration Township Station Information

Station 119 information:

- Owner – UFSA
- Opened – 2007
- Address – 5025 Emigration Canyon Road
- Staffing and Apparatus –
  - Type 1/3, ME 119 (3 persons)
  - Type 6, Brush Truck (cross-staffed)



Image 11 – Emigration Station 119

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Emigration Township are:

- Salt Lake City* Station 3, with a four-person medic engine
- Salt Lake City* Station 5, with a four-person medic engine
- Salt Lake City* Station 10, with a four-person engine
- Salt Lake City* Station 13, with a four-person engine
- UFA Station 106 (Millcreek City), with a four-person medic ladder and a two-person medic ambulance
- UFA Station 112 (Millcreek City), with a four-person medic engine

* – Of Note…
UFA only relies on Salt Lake City for fire response on mutual and automatic aid and does not currently have Salt Lake City units respond on medical calls

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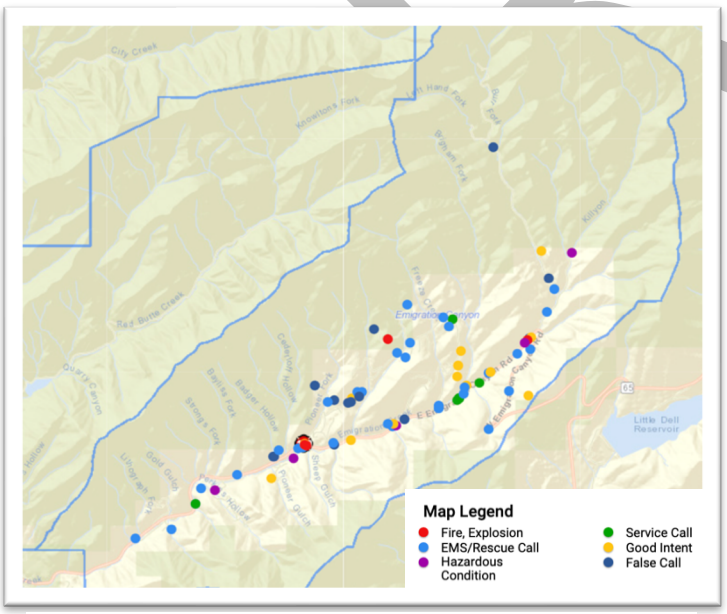
Emigration Township – Incidents by Dispatch Type

The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

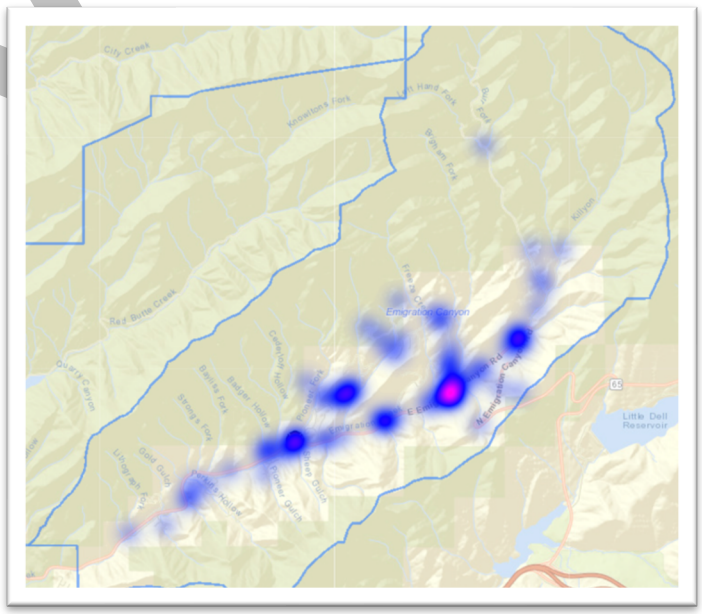
	CY 2020	CY 2019	CY 2018
Fire Suppression	4	4	5
EMS	32	39	50
Hazardous Materials	5	4	7
Service Calls	9	8	3
Good Intent	27	13	18
False Calls	13	9	16
Other (Misc., Flood, Overpressure)	0	0	1
Total	90	77	100
Cancelled	13	6	6
Overall Total	103	83	106

Table 84 – Emigration Township Call Types

Emigration Township – 2020 Incidents and Heat Map



Map 124 - Emigration Incident Calls by Type



Map 125 – Emigration Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

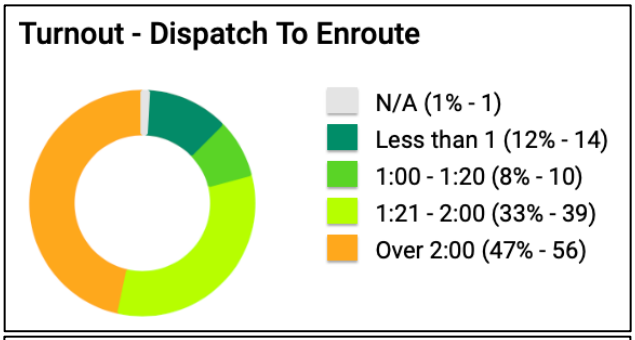
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

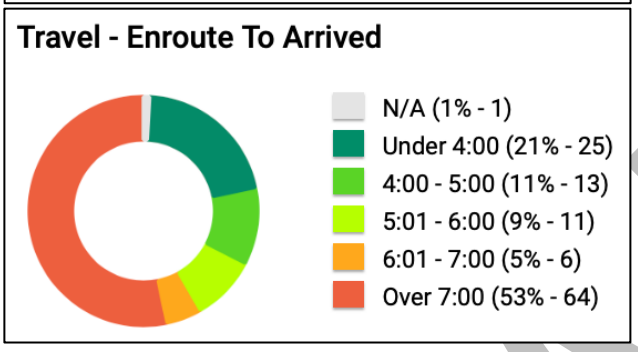
– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

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Emigration Township – 2020 Dispatch and Response Times





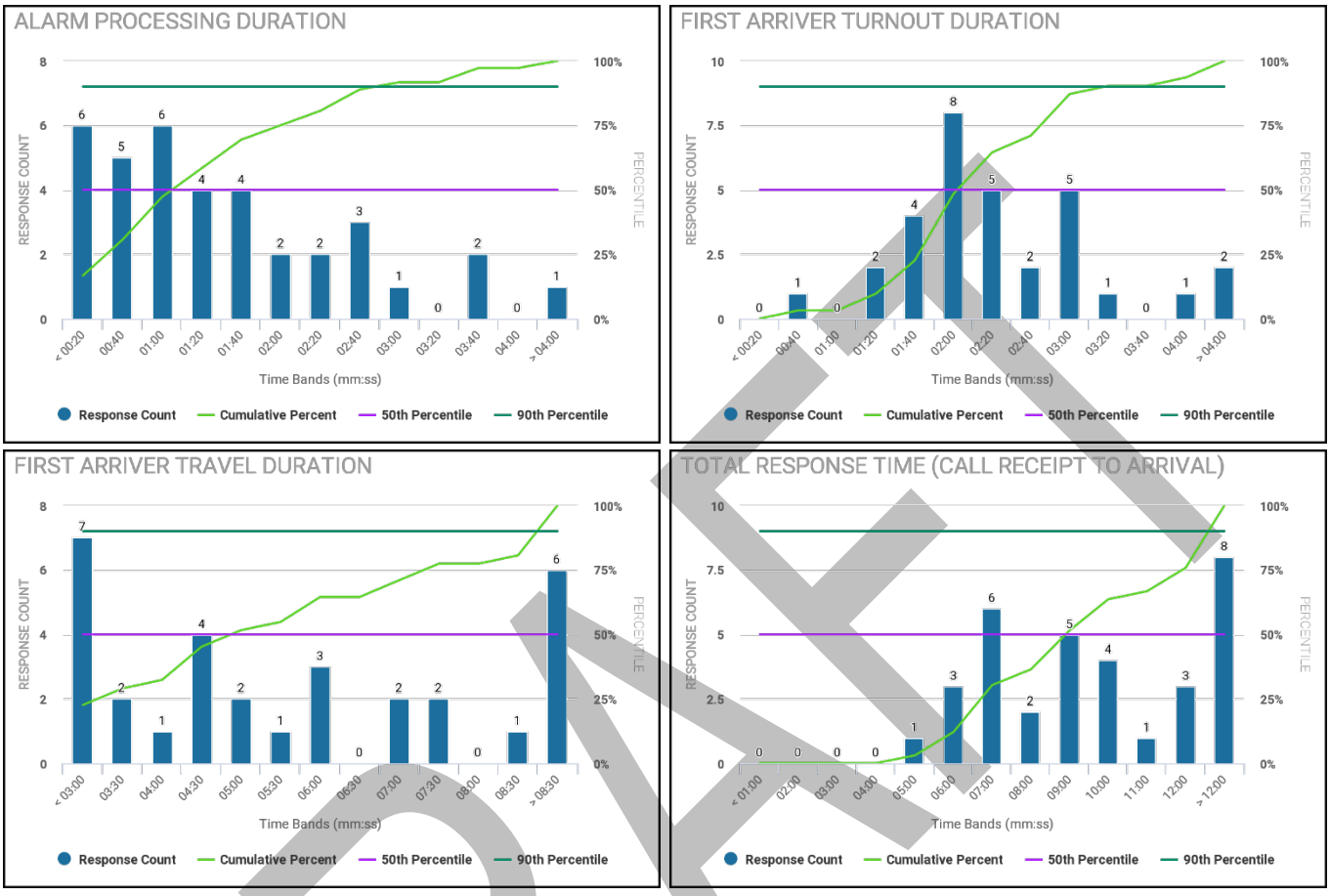


Rural	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Emigration	2:36	3:04	13:50	16:56	2:27	4:23	10:37	13:50
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 85 – Emigration 2020 Emergent Response Times, 90th percentile values

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Emigration Township – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Emigration Township (90th percentile). The alarm processing for fire was 2:36 and 2:27 for EMS; turnout time was 3:04 for fire responses and 4:23 for EMS responses; travel time was 13:50 for fire responses and 10:37 for EMS. The 90th percentile total response time was 16:56 for fire and 10:37 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Emigration Township – 2020 Incidents by Time of Day

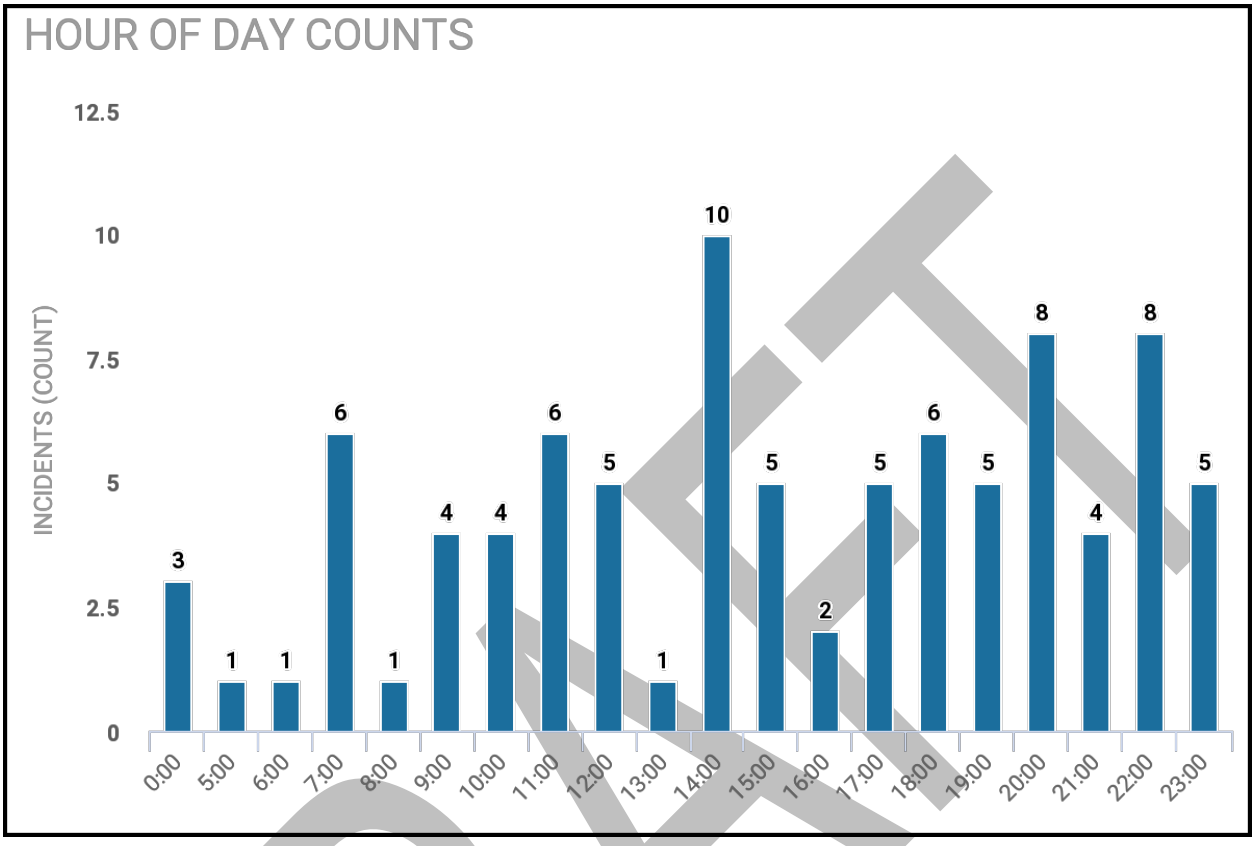


Chart 42 –Emigration 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Emigration Township for all service calls. This chart illustrates that the greatest demand for service delivery is at 2:00 PM.

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Emigration – 2020 Incidents by Day of Week

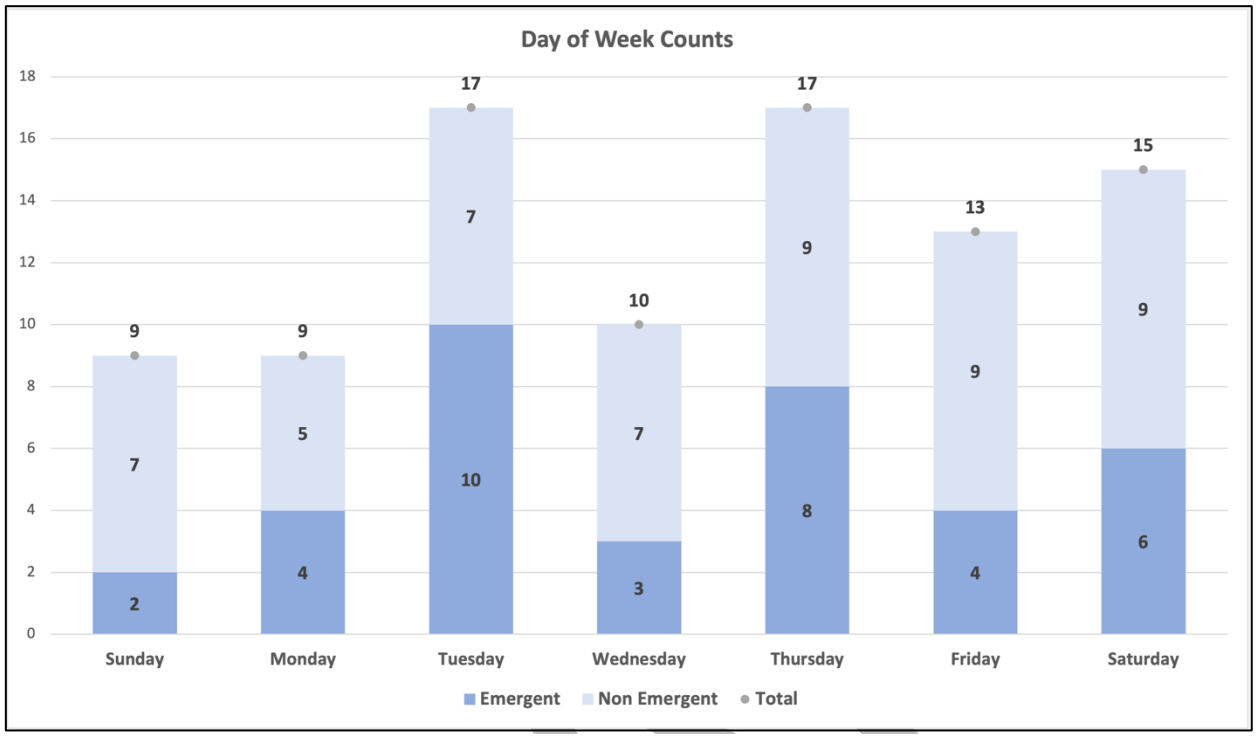


Chart 43 – Emigration Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with Tuesdays and Thursdays having the most overall calls in Emigration Township.

Emigration – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	12	15	33
BLS Transports	14	20	14
Scene Release	9	2	2
Public Assistance	4	2	0
EMS Total Calls	35	37	49
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 86 –Emigration Township EMS Calls

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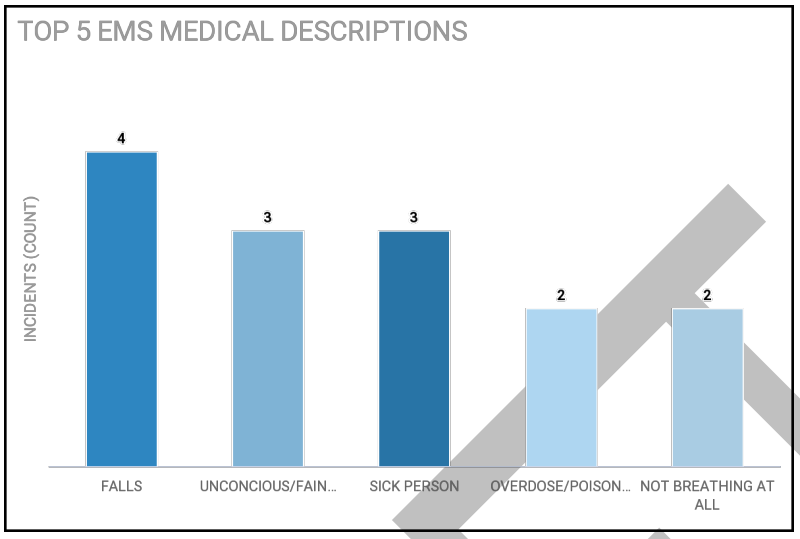


Chart 44 - Top 5 EMS Medical Calls - 2020

Emigration Township – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	2	50%
Mobile Property Fire	1	25%
Outside Rubbish Fire	1	25%
Total	4	100%

Table 87 – Emigration 2020 Incidents by Dispatch Type

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Emigration Township – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	1	0	0	0	1
Commercial/Industrial	1	1	0	0	2
Educational	0	0	0	0	0
Government	0	0	0	0	0
Healthcare	0	0	0	0	0
Hazardous	Unknown	Unknown	Unknown	Unknown	0*
Storage	0	0	0	0	0
Residential	0	14	12	1	27
Residential – Multi Unit	10	3	1	0	14
High Rise	N/A	N/A	0	0	0
Total	12	18	13	1	44

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

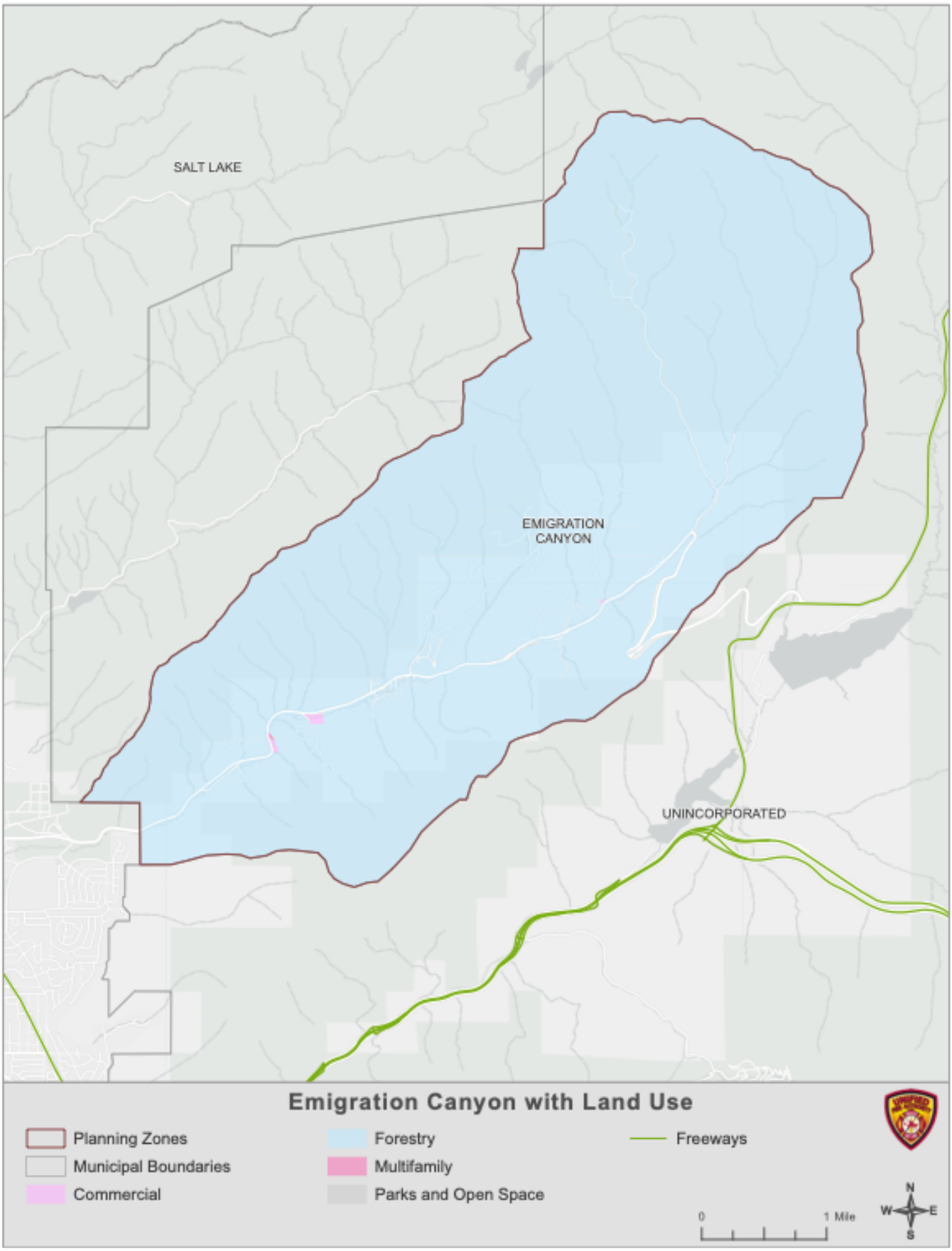
Table 88 – Emigration Building Occupancy and Risk Categories

Building Size / Considerations

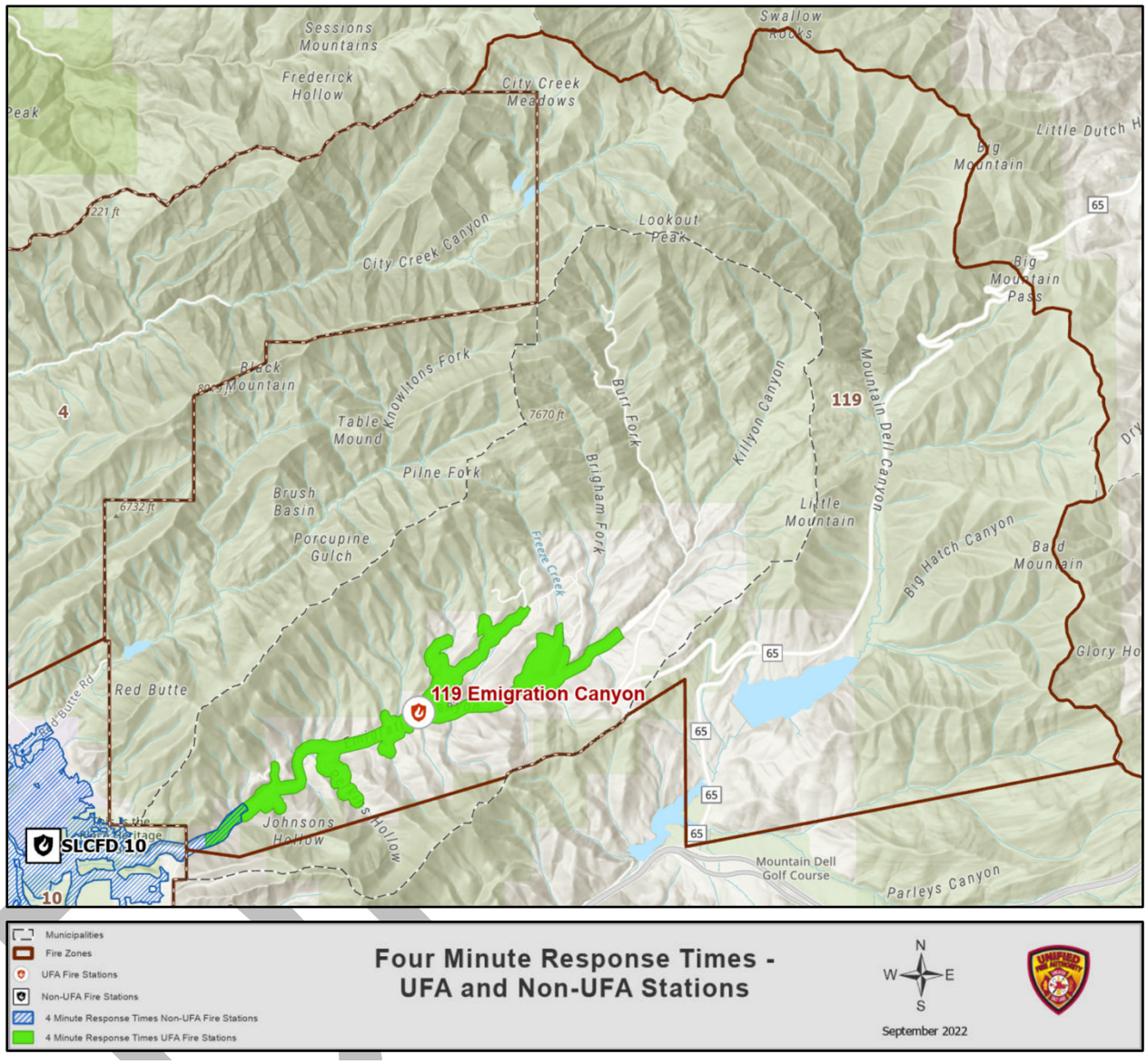
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

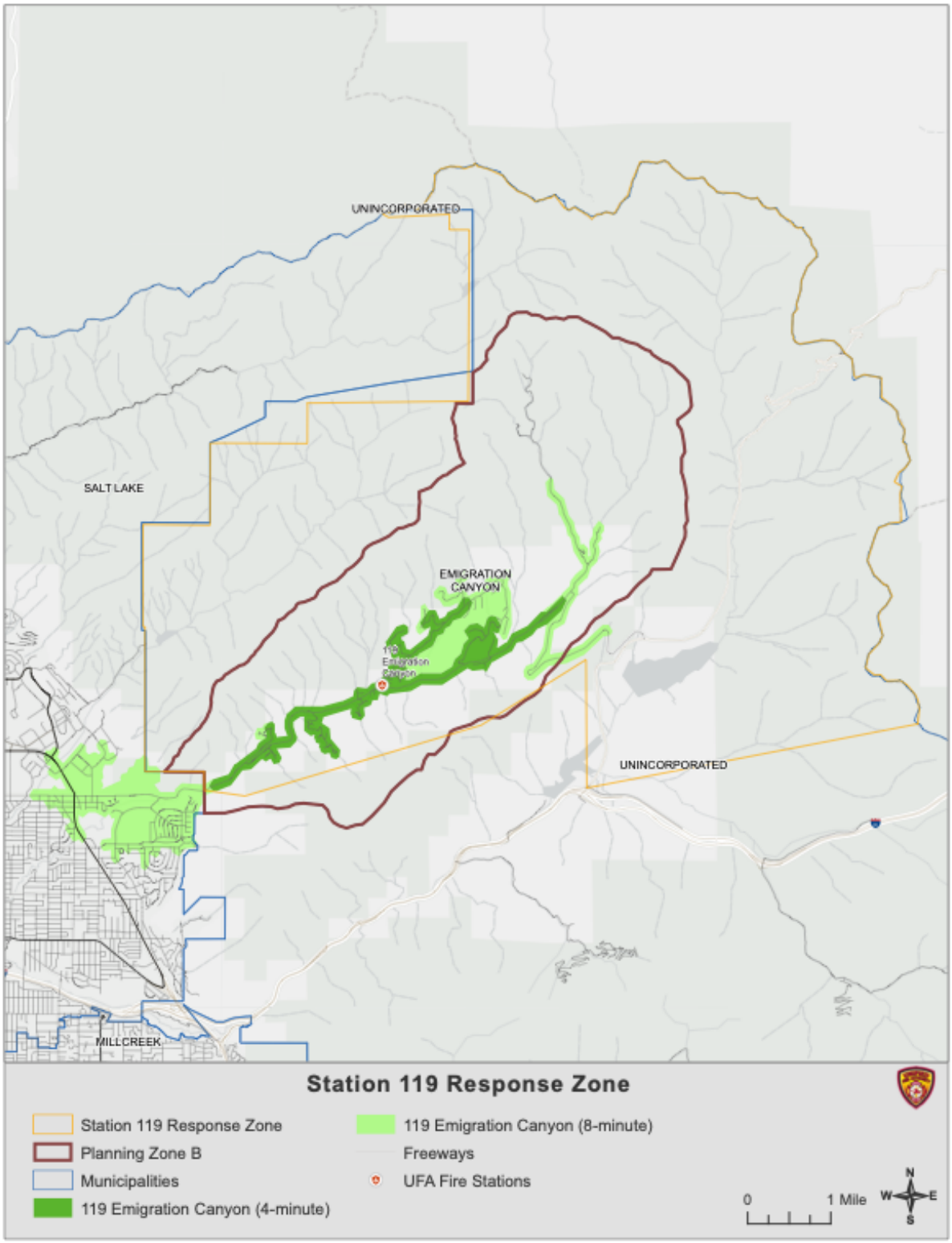
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Map 126 – Emigration with Land Use



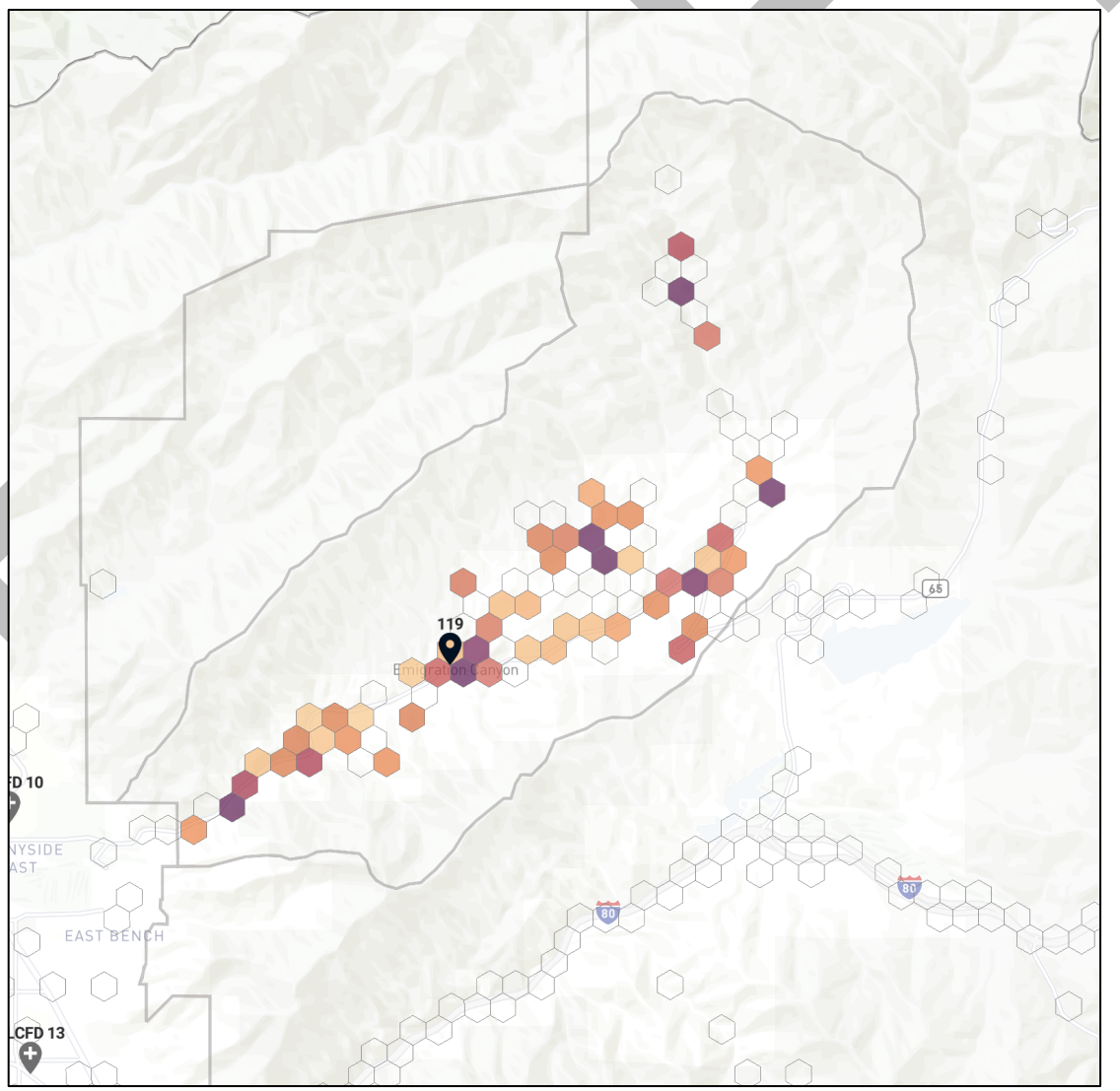
Map 127 - 4-Minute Travel Time, UFA and Aid



Map 128 - Station 119 4- and 8-Minute Travel Times

Emigration Township – First Arriver Travel Times

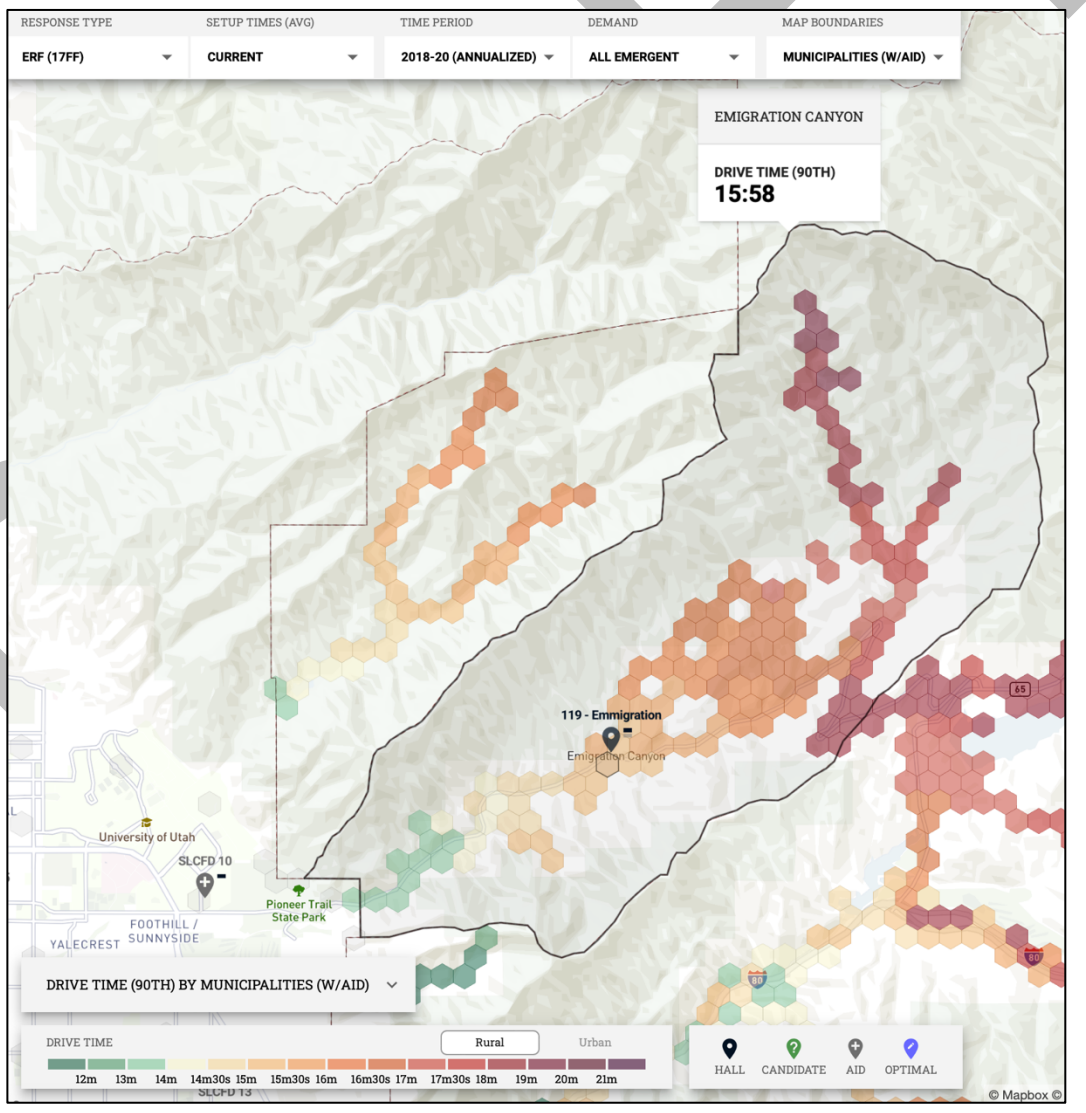
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within Emigration, the 90th percentile drive time is 13:50 for fire and 10:37 for EMS, or a combined 90th percentile drive time of 11:48.



Map 129 – Emigration Response Times – All Aid

Emigration Township – Residential Fire Effective Response Force (17 FF)

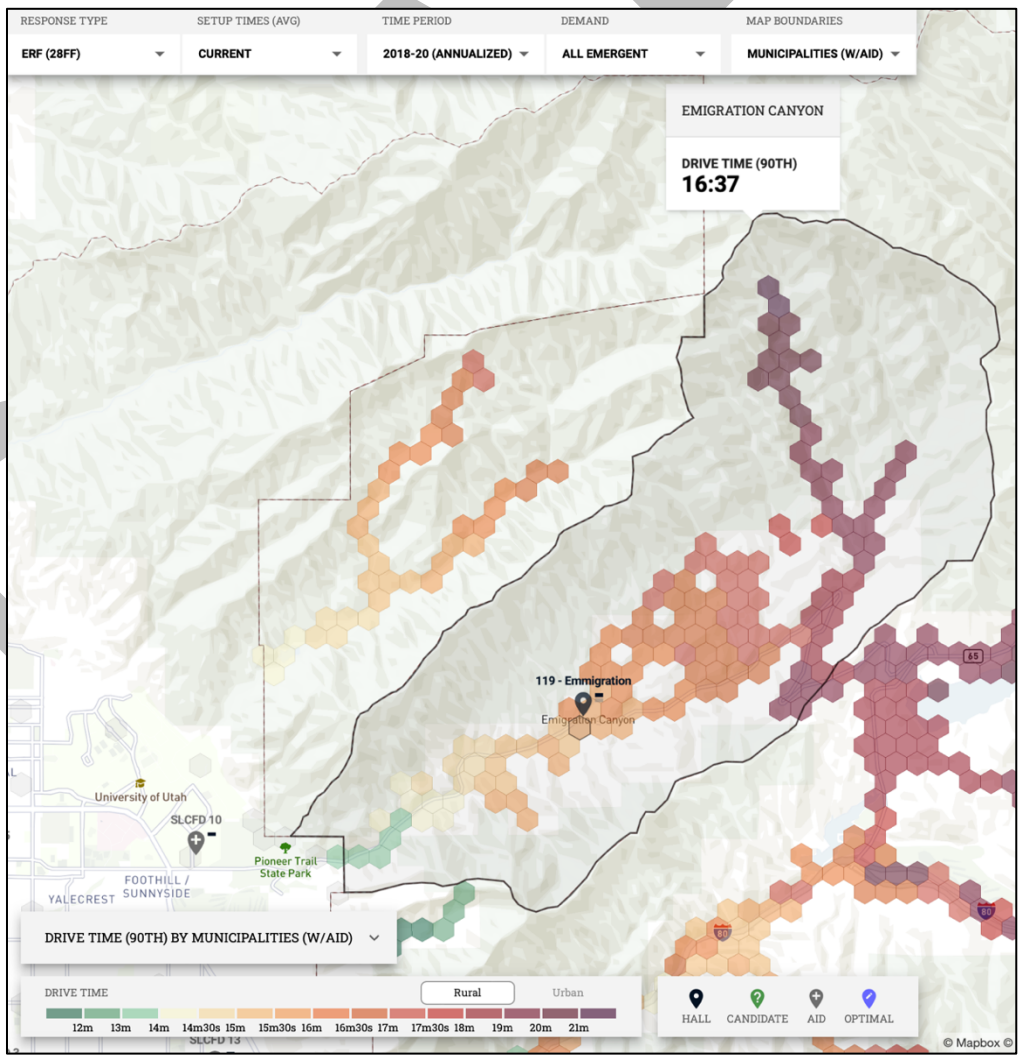
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 15:58.



Map 130 – Emigration Response Times – Residential Fire Effective Response Force (17 ERF)

Emigration Township – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 16:37.



Map 131 – Emigration Response Times – Commercial Fire Effective Response Force (28 FF)

Emigration Township Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Low	Low	Low	Low	Low	Mod	High	Low	Low	Low	Low	Low

Table 89 – Emigration Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

The primary roadway that runs through Emigration Township is Emigration Canyon Road which runs east/west between State Road 186 and I-80. There are 0 linear miles of Interstate/US Highway, 0 linear miles of State Highways, and 25.7 total linear miles of roadway. Emigration Township is in the low-risk category for road infrastructure.

Infrastructure – Water

There are two water districts within Emigration Township. The Emigration Improvement District, and the Salt Lake City Water Department. The Salt Lake City Water Department that covers from the west end of the canyon up to the Maryfield Drive area and the Emigration Improvement District covers the rest of the canyon.

Infrastructure – Dams

There are two identified dams within Emigration Township. Emigration is in the low-risk category for dam infrastructure.

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Natural Hazards

Within Emigration Township, there are low concerns with avalanche areas, placing it in the low-risk category for avalanche. There are no identified fault lines that run through the city (see Map 8). Emigration is in the low-risk category for liquefaction and low-risk category for fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings. Within Emigration Township, there are an estimated 44 URM's, which constitutes about 0.18% of the overall URM's within UFA's response areas. Emigration is in the moderate-risk category for unreinforced masonry.

Wildland Urban Interface

There is high risk of urban interface fires within Emigration Township and within Emigration Canyon. One of the primary hazards is the lack of egress routes going out of the canyon. Emigration is in the high-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are no identified HazMat/Tier II Sites within Emigration Township, which is in the low-risk category.

Hospitals

Emigration Township has no hospitals. This places Emigration in the low-risk category for hospitals.

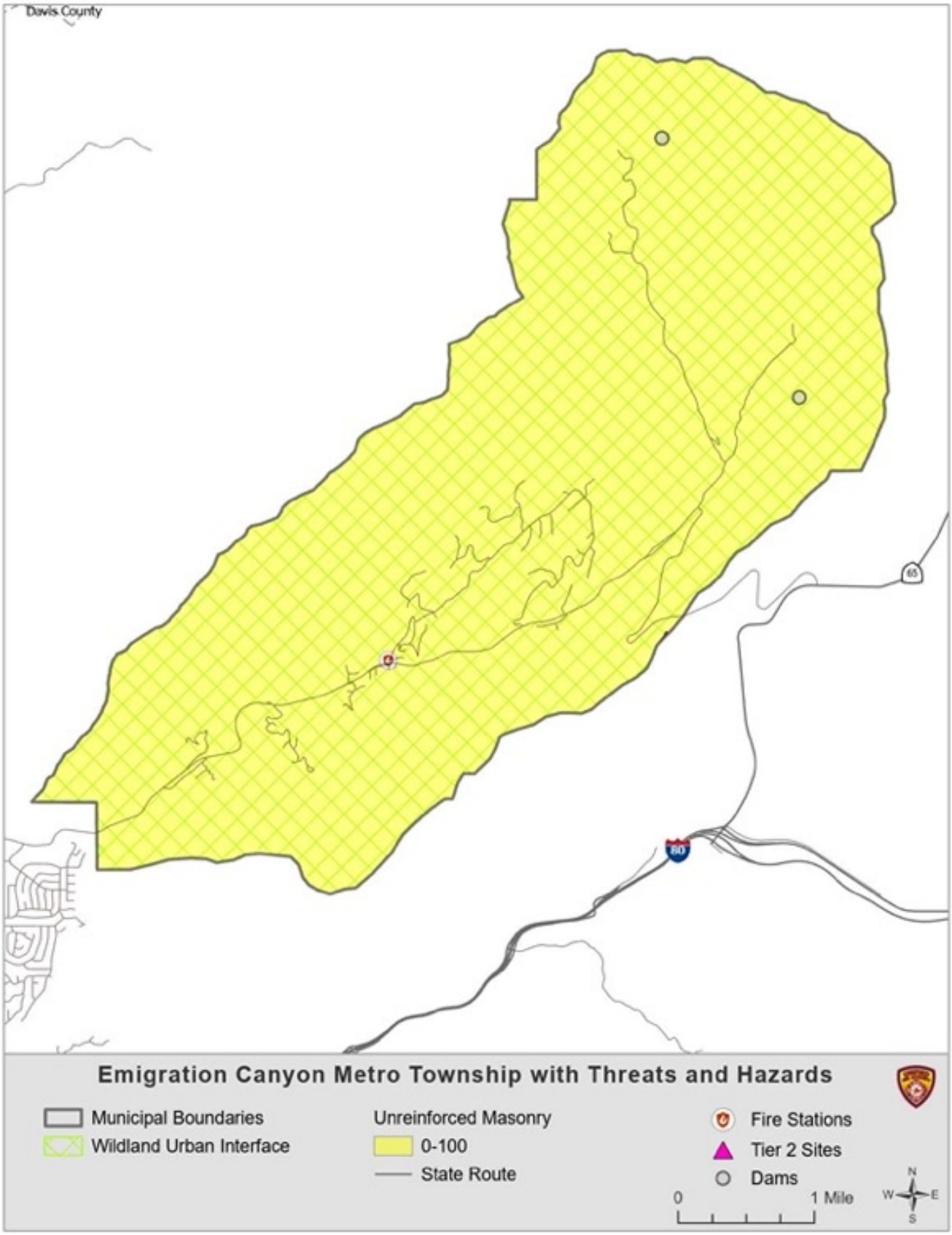
Schools

Emigration Township has zero elementary schools, zero middle schools, and zero high school within city boundaries, which places it in the low-risk category.

Target Hazards

- Pinecrest Community – Access/Egress
- Killion Canyon Community – Access/Egress
- Sunnydale Community – Access/Egress
- Chevron Pipeline
- Citygate Pipeline
- Emigration Canyon Road is an alternative to I-80 when I-80 is closed for various reasons

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Map 132 – Emigration Township with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $1,914,700.00 of property loss and a total estimate of $1,203,500.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has a swift water team, ice rescue team, as well as a dive rescue team. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house Water Rescue Companies.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Herriman City

Community Risk Assessment



HERRIMAN CITY

UNIFIED FIRE AUTHORITY
GREATER SALT LAKE

Herriman City Planning Zone

UFA has two stations within the Herriman City Planning Zone covering a total of 8.5 square miles with a population of 55,144 and responded to 1,655 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Herriman City	55,144	12.23 %	21.63	2,549	Urban

Herriman City has increased its population from 21,825 in 2010 to 55,144 in 2020, showing an increase of 60.42% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 44 demonstrates that Herriman could grow to 119,523 by the year 2040.

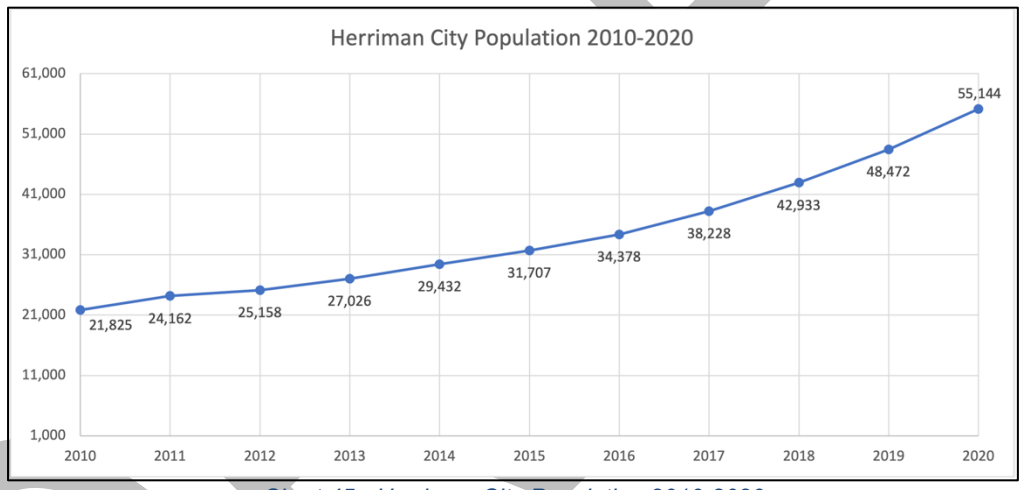


Chart 45 - Herriman City Population 2010-2020

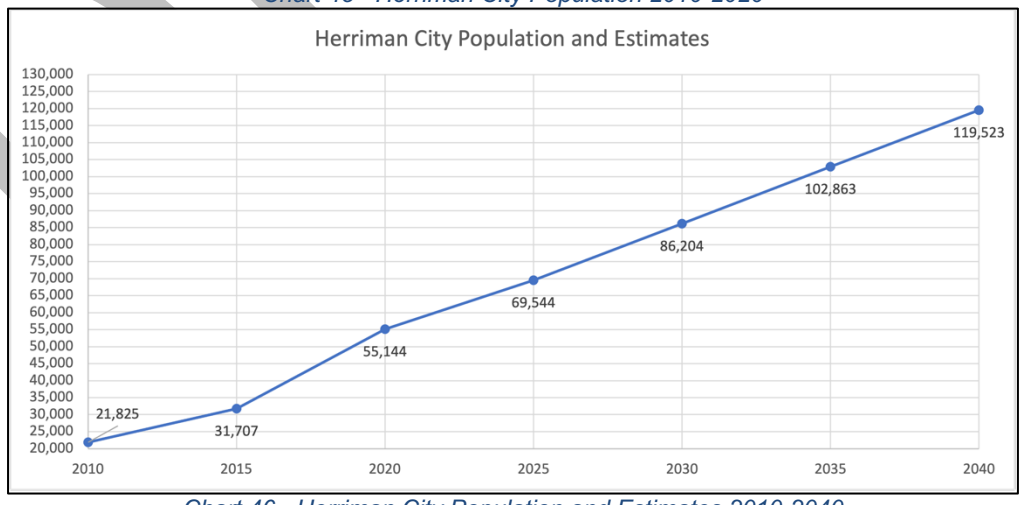


Chart 46 - Herriman City Population and Estimates 2010-2040

Herriman City Station Information

Station 103 information:

- Owner – Herriman City
- Opened – 1978
- Address – 5916 West 13100 South
- Staffing and Apparatus –
  - Type 1/3, ME 103 (4 persons)
  - Wildland Duty Officer Truck (cross-staffed)
  - PL MA 203 (2 persons – 0900-2100)



Image 12 – Herriman City Station 103

Station 123 information:

- Owner – UFSA
- Opened – 2010
- Address – 4850 Patriot Ridge Drive
- Staffing and Apparatus –
  - Type 1, ME 123 (4 persons)
  - Type 6 Brush Truck (cross-staffed)
  - Type 1, WTT 123 (cross-staffed)



Image 13 – Herriman City Station 123

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Herriman City are:

- UFA Station 121 (Riverton City), with a four-person medic ladder and a two-person medic ambulance
- UFA Station 120 (Riverton City), with a two-person medic ambulance
- UFA Station 124 (Riverton City), with a four-person medic engine

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- Bluffdale Station 91, with a two-person medic engine and a two-person medic ambulance
- Bluffdale Station 92, with a two-person medic engine and a two-person medic ambulance
- South Jordan Station 62, with a four-person engine and a two-person medic ambulance
- South Jordan Station 63, with a four-person engine and a two-person medic ambulance
- South Jordan Station 64, with a four-person engine and a two-person medic ambulance
- West Jordan Station 54, with a three-person engine and a two-person medic ambulance

Herriman City – Incidents by Dispatch Type

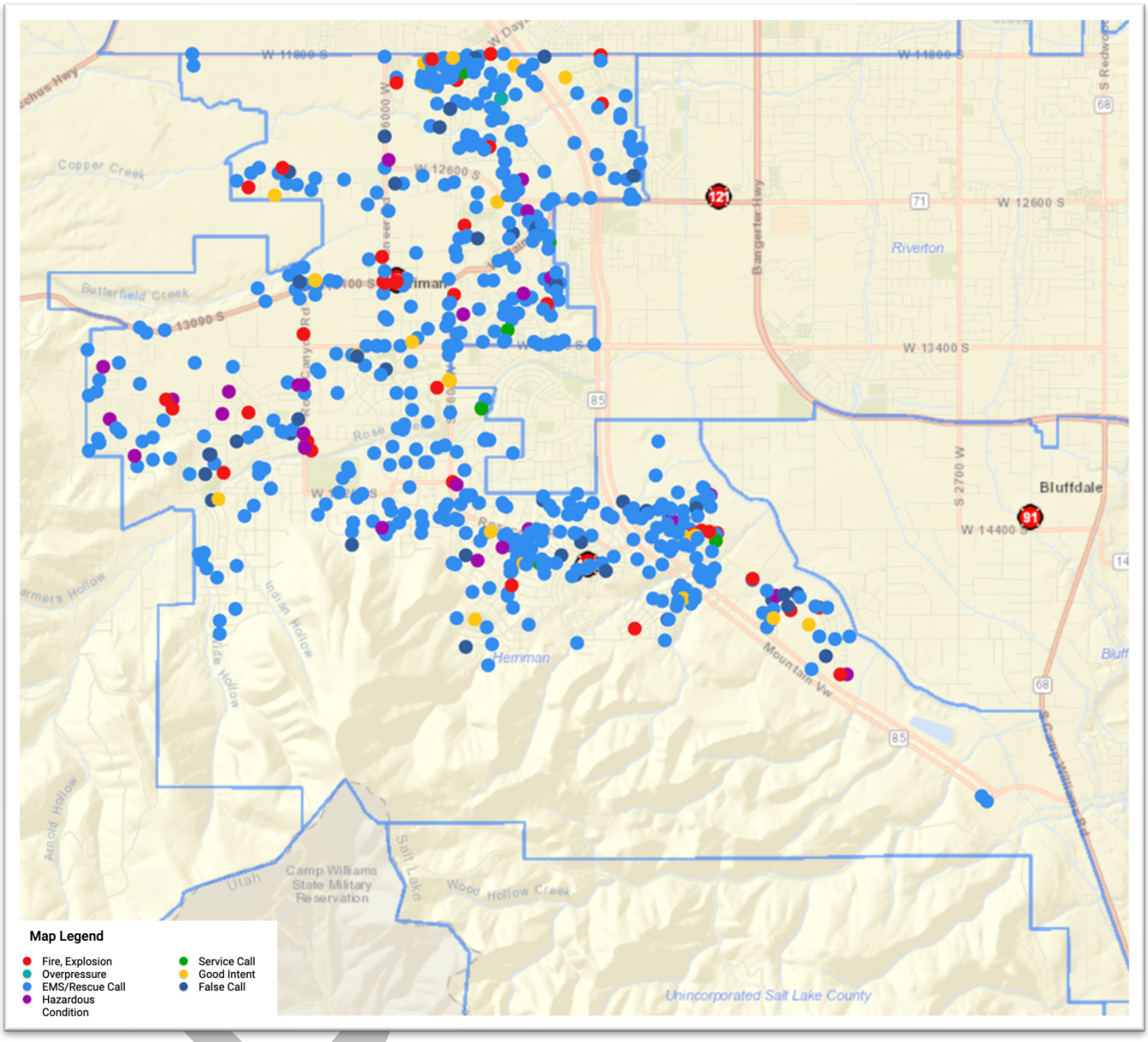
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	51	23	36
EMS	910	781	689
Hazardous Materials	59	35	34
Service Calls	64	51	48
Good Intent	259	198	106
False Calls	132	142	129
Other (Misc., Flood, Overpressure)	3	3	3
Total	1,478	1,233	1,045
Cancelled	177	113	77
Overall Total	1,655	1,346	1,122

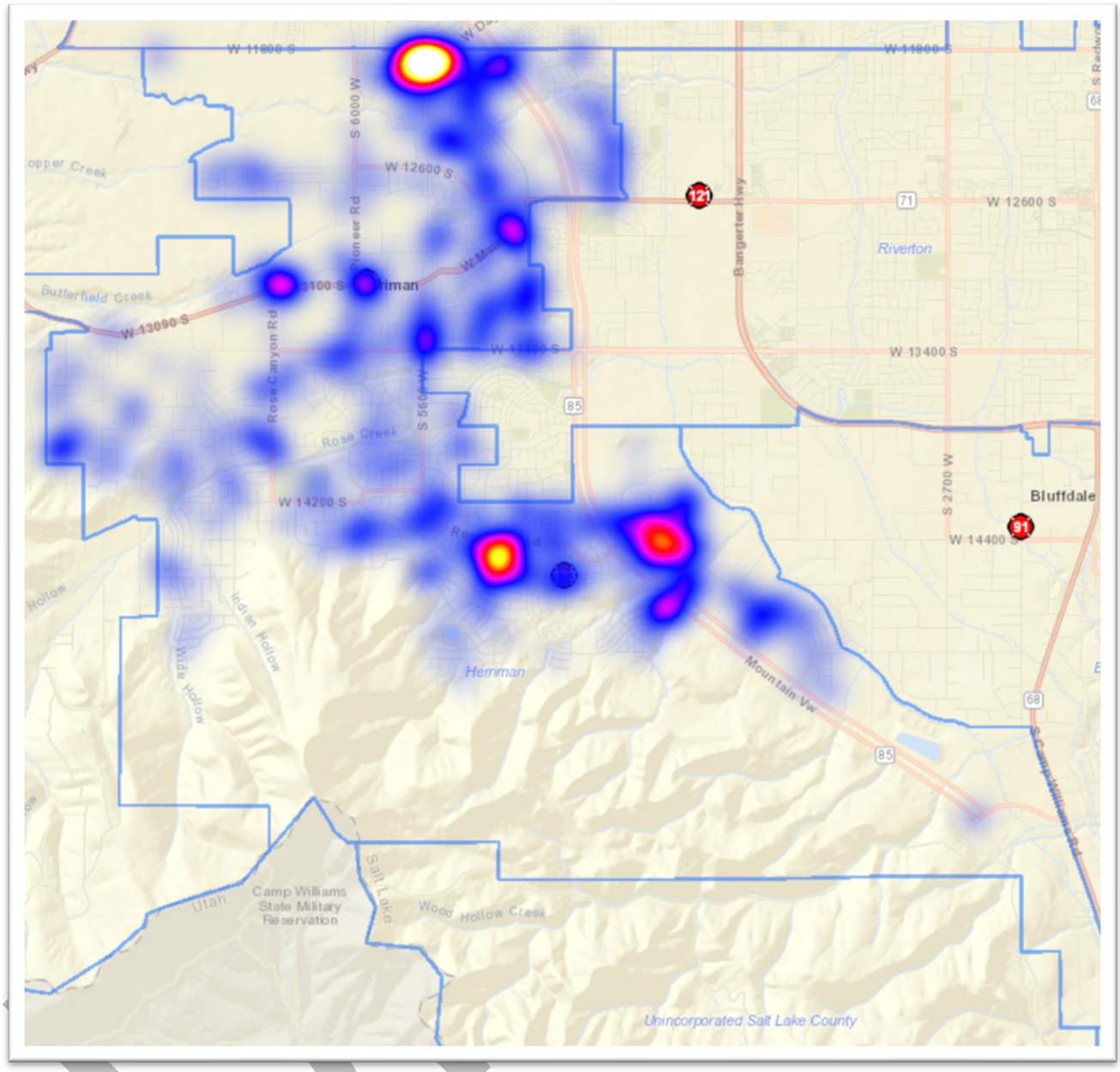
Table 90 – Herriman City Call Type

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Herriman City – 2020 Incidents and Heat Map



Map 133 - Herriman City Incident Calls by Call Type



Map 134 - Herriman City Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

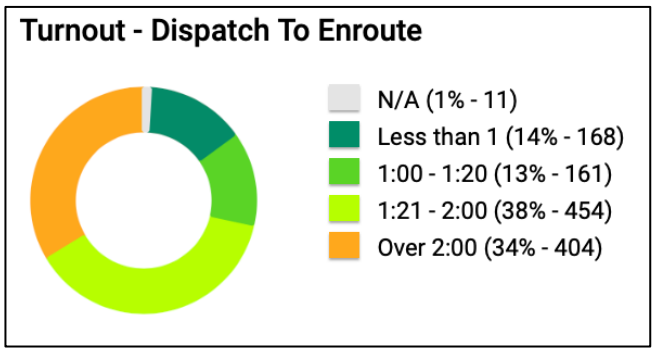
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

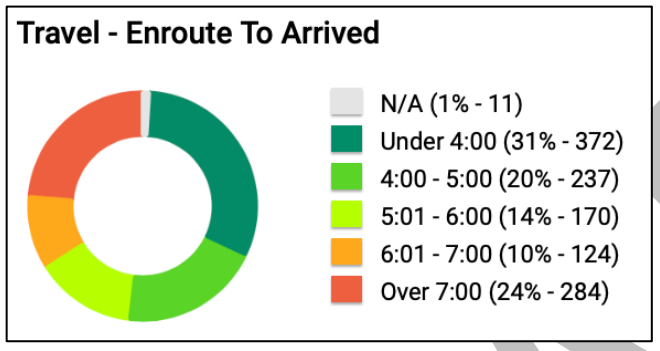
– Of Note…

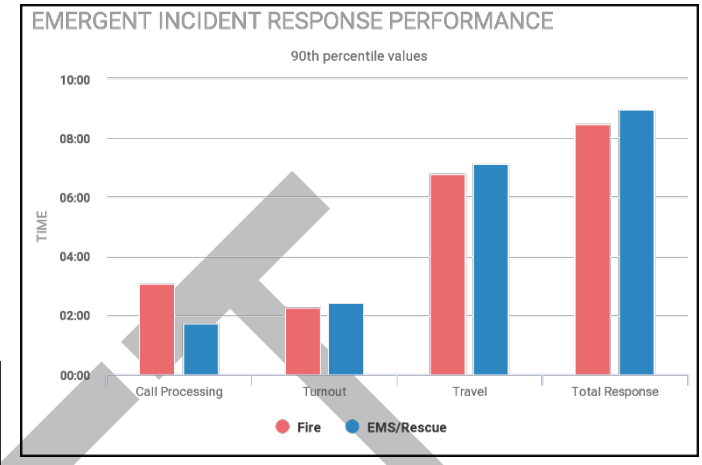
NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

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Herriman City – 2020 Dispatch and Response Times





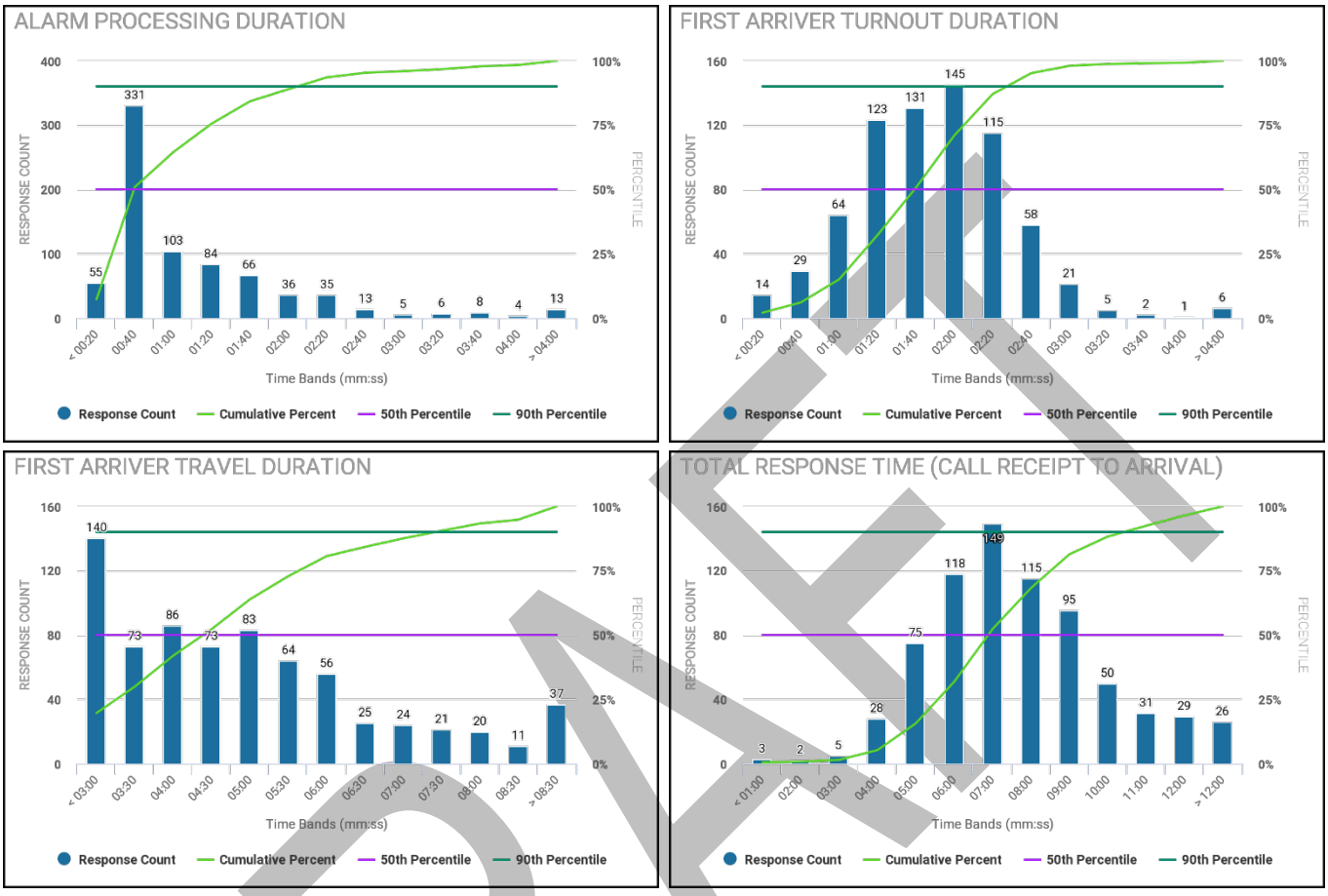


Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Herriman	2:26	2:22	7:57	11:41	1:44	2:25	7:11	9:56
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 91 – Herriman City 2020 Emergent Response Times, 90th percentile values

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Herriman City – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Herriman City (90th percentile). The alarm processing for fire was 2:26 and 1:44 for EMS; turnout time was 2:22 for fire responses and 2:25 for EMS responses; travel time was 11:41 for fire responses and 7:11 for EMS. The 90th percentile total response time was 11:41 for fire and 9:56 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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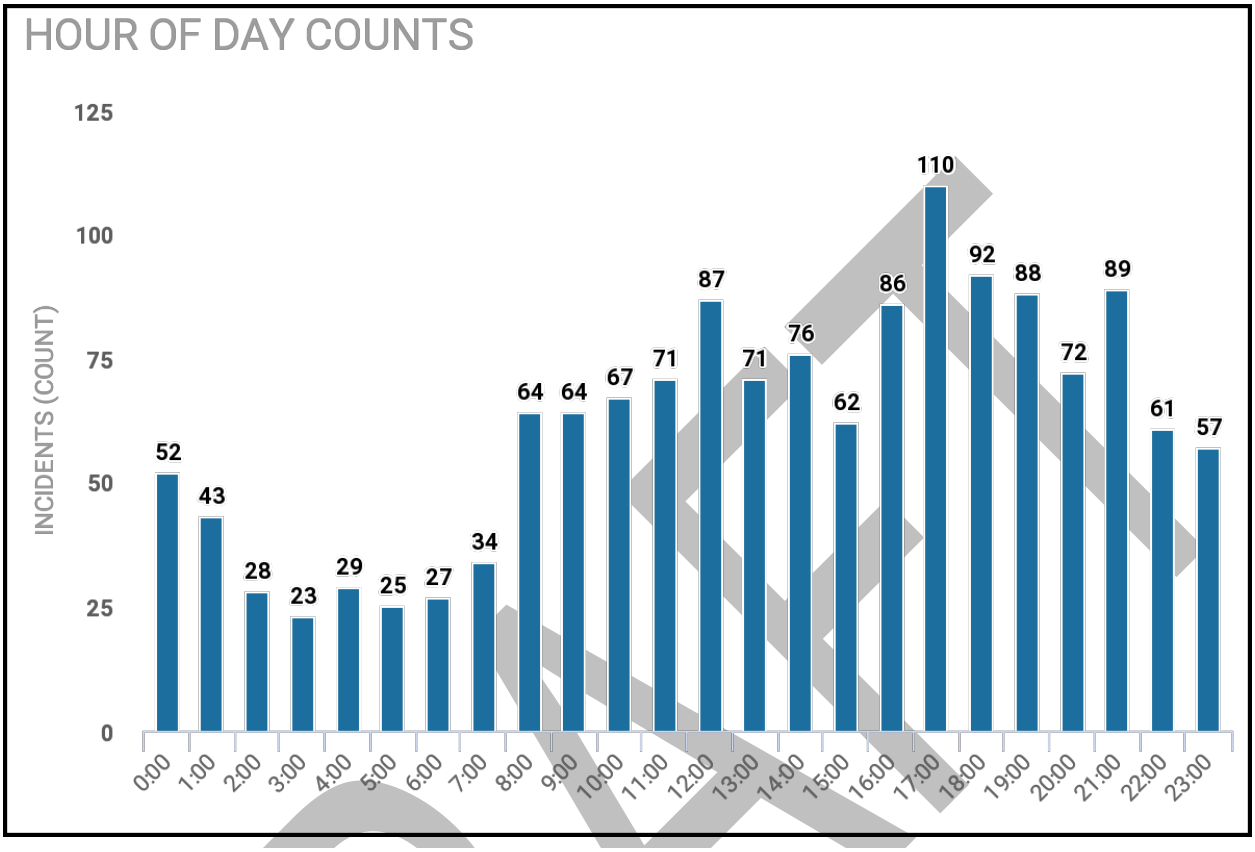


Chart 47 - Herriman City 2020 Incidents by Time of Day

Herriman City – 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Herriman City for all service calls. This chart illustrates that the greatest demand for service delivery begins at 08:00 AM and starts to decrease at 09:00 PM.

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Herriman City – 2020 Incidents by Day of Week

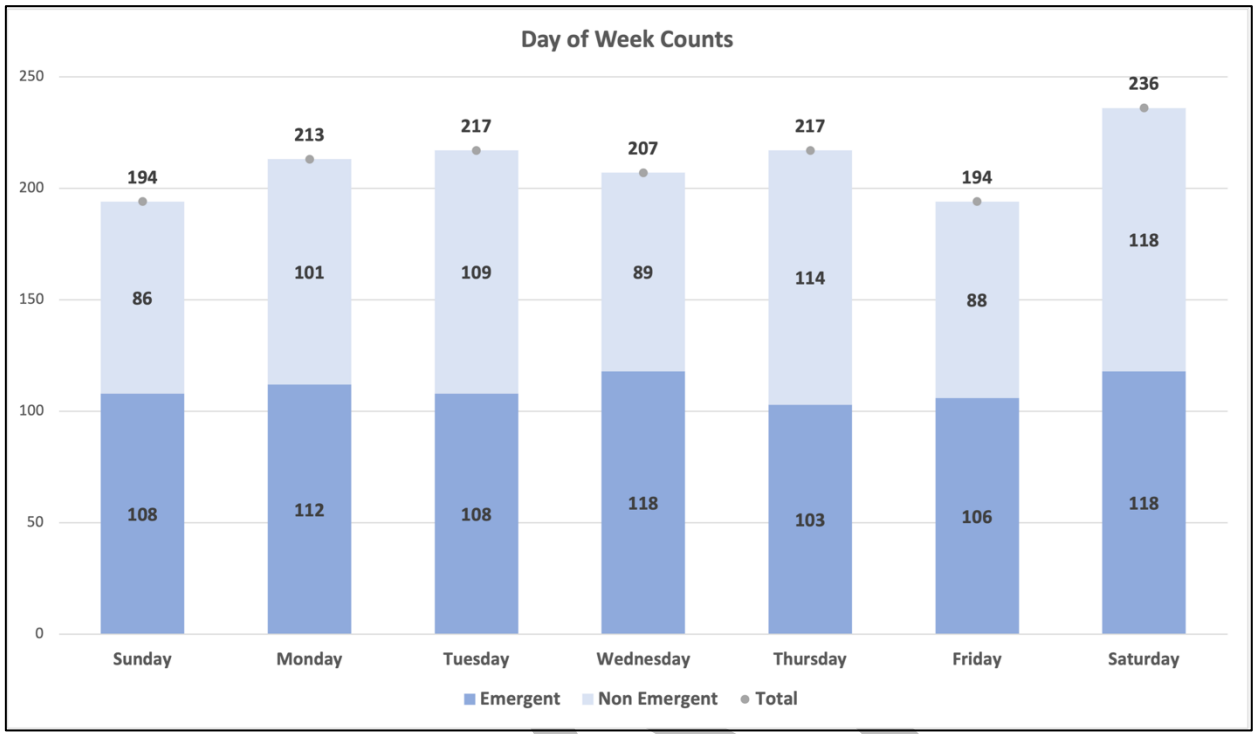


Chart 48 – Herriman City Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls as well as the peak volume for all calls in Herriman City occurring on Saturday.

Herriman City – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	350	240	248
BLS Transports	402	338	236
Scene Release	41	36	55
Public Assistance	4	7	11
EMS Total Calls	793	614	539
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 92 – Herriman City EMS Calls

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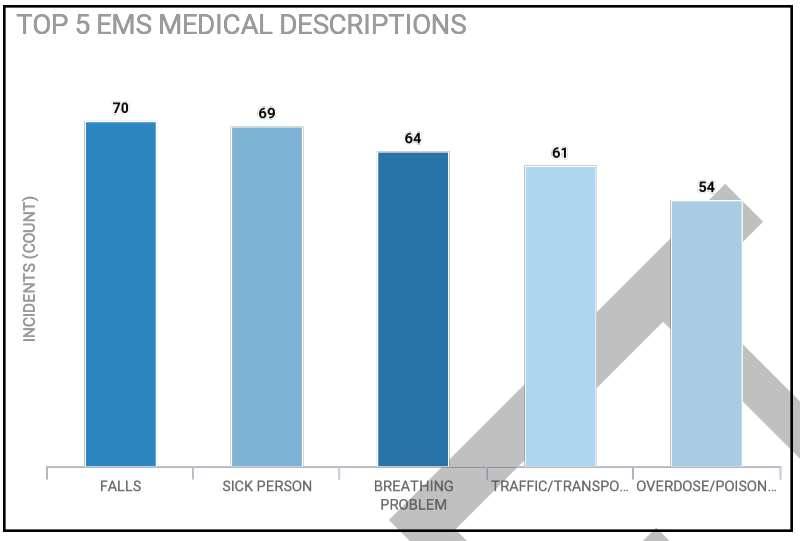


Chart 49 - Top 5 EMS Medical Calls - 2020

Herriman City – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	19	37.3%
Natural Vegetation Fire	9	17.6%
Outside Rubbish Fire	11	21.6%
Special Outside Fire	3	5.9%
Fire, Other	5	9.8%
Vehicle Fire	4	7.8%
Total	51	100%

Table 93 – Herriman City 2020 Incidents by Dispatch Type

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Herriman City – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	17	0	11	0	28
Commercial/Industrial	4	1	0	0	5
Educational	0	11	2	3	16
Government	1	0	0	0	1
Healthcare	0	0	0	0	0
Hazardous	Unknown	Unknown	Unknown	Unknown	30*
Storage	0	0	0	0	0
Residential	286	5,217	2,363	6	7,872
Residential – Multi Unit	160	28	101	3	292
High Rise	N/A	N/A	0	0	0
Total	468	5,257	2,376	12	8,216

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

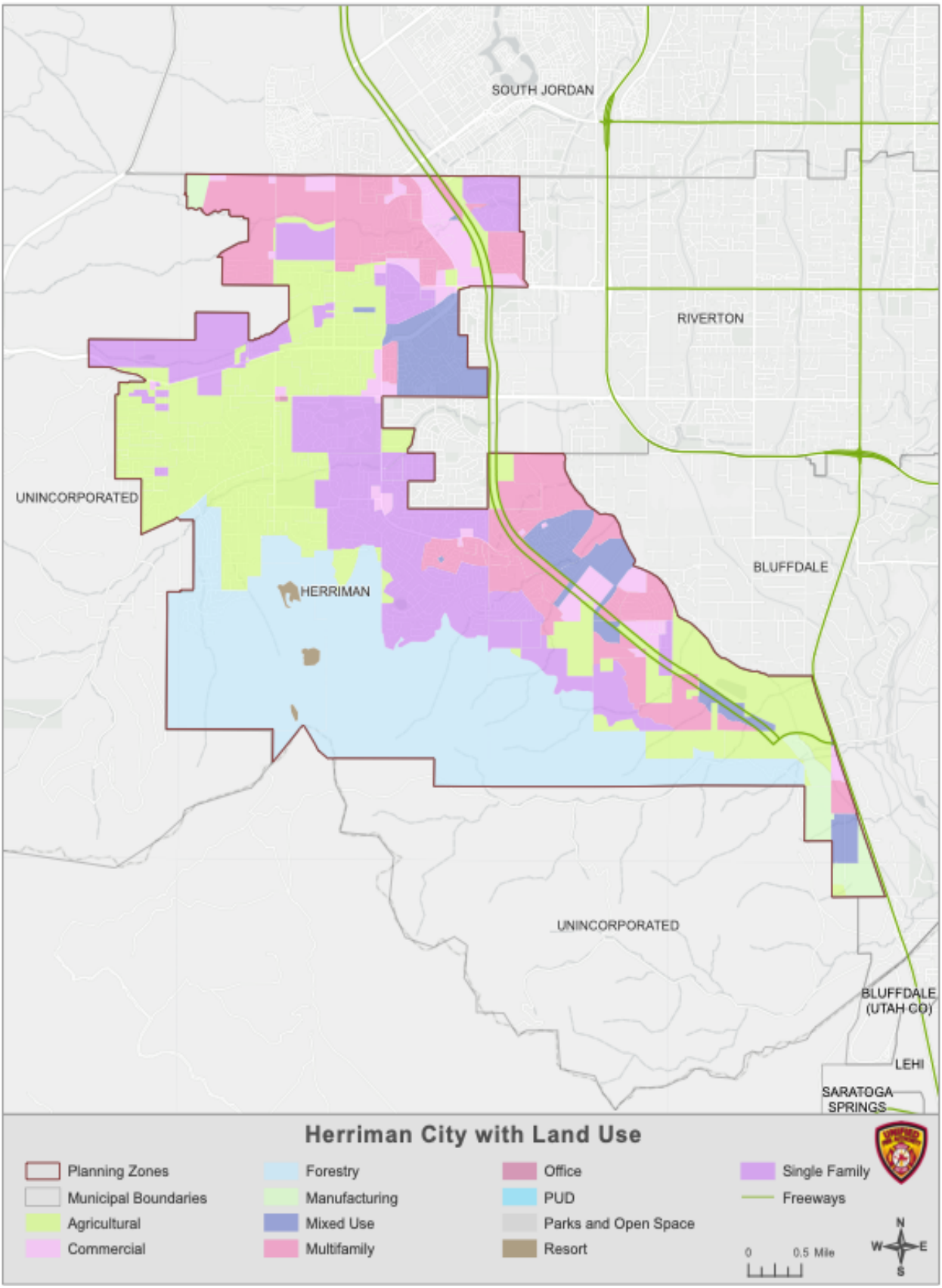
Table 94 – Herriman City Building Occupancy and Risk Categories

Building Size / Considerations

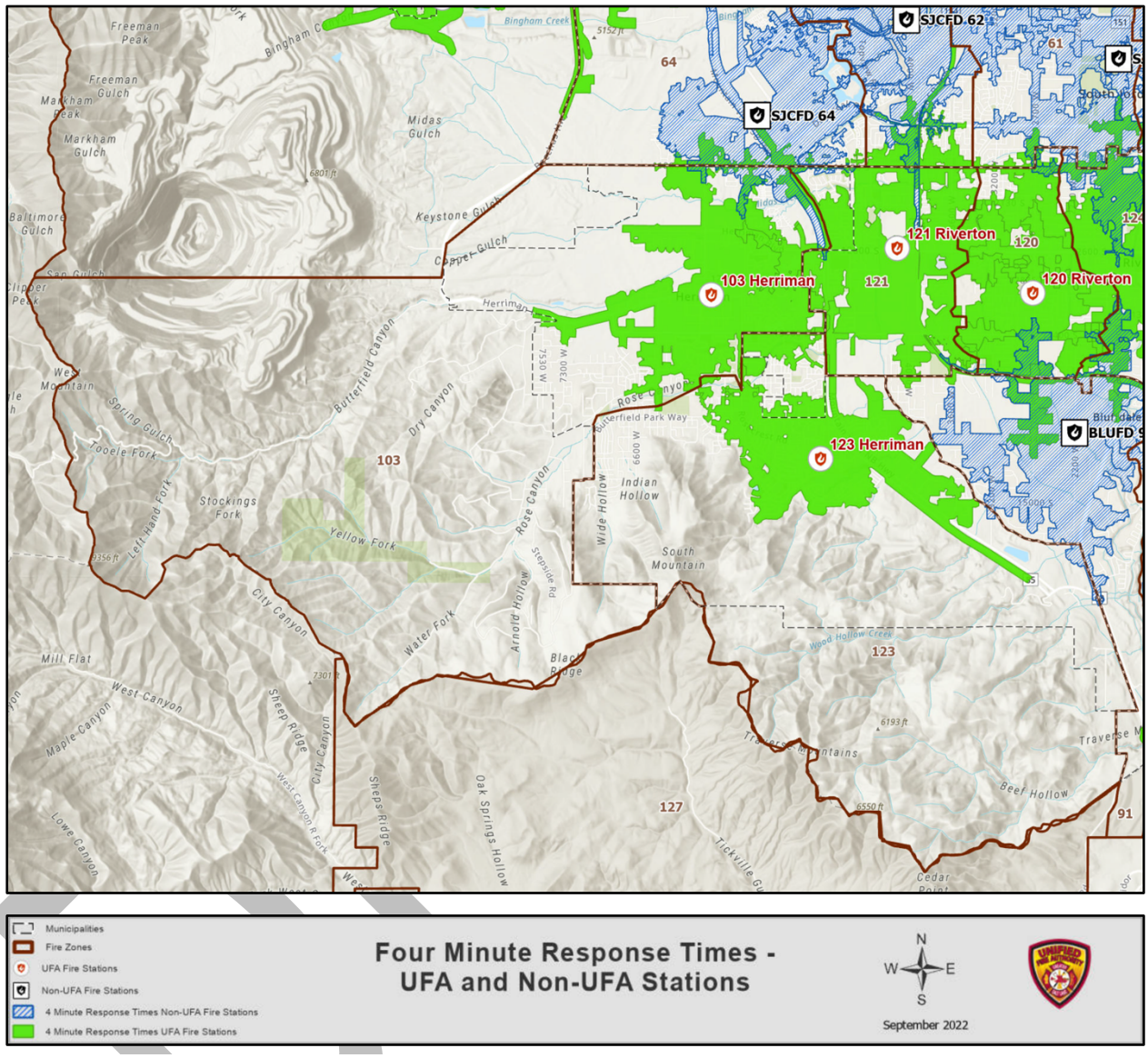
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

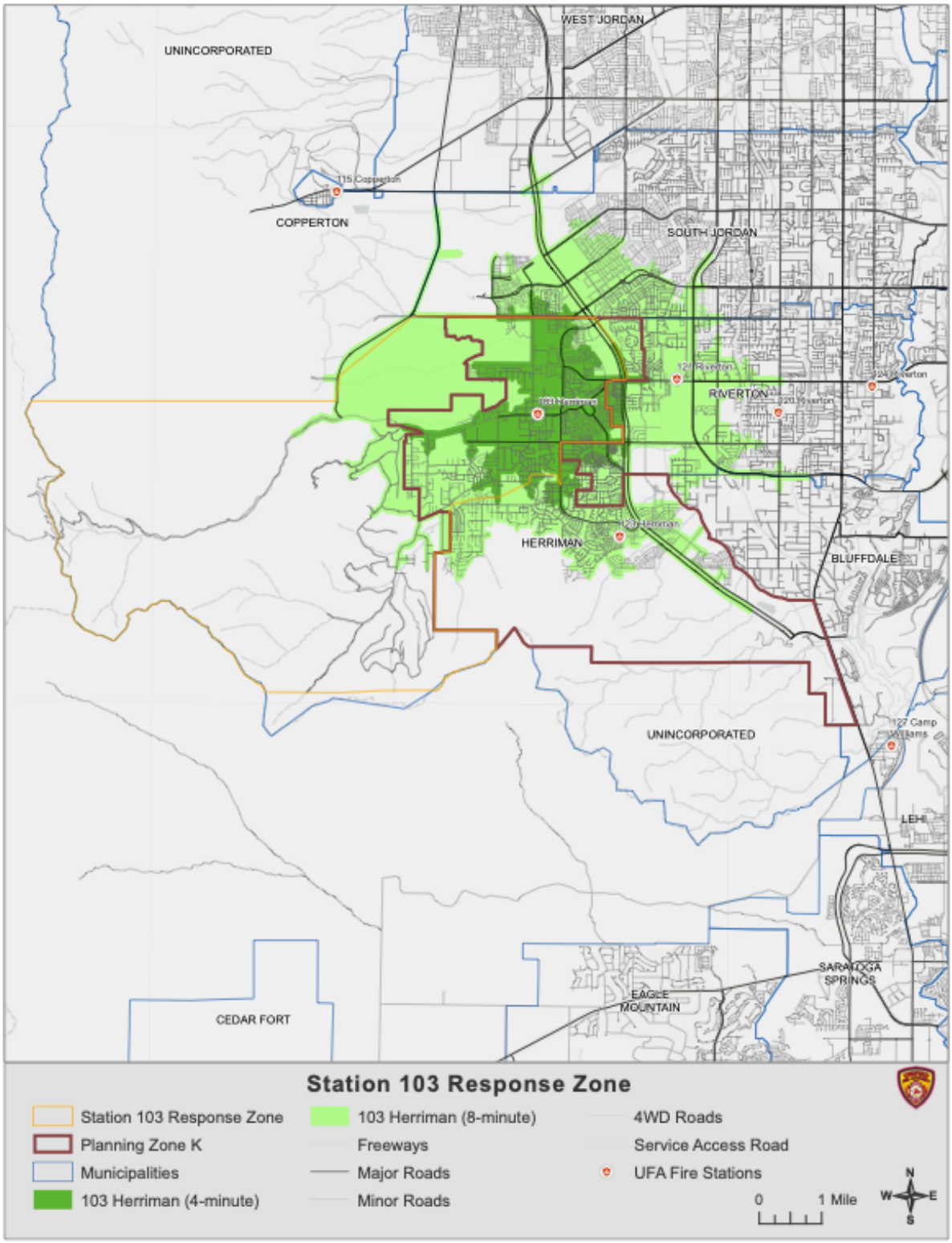
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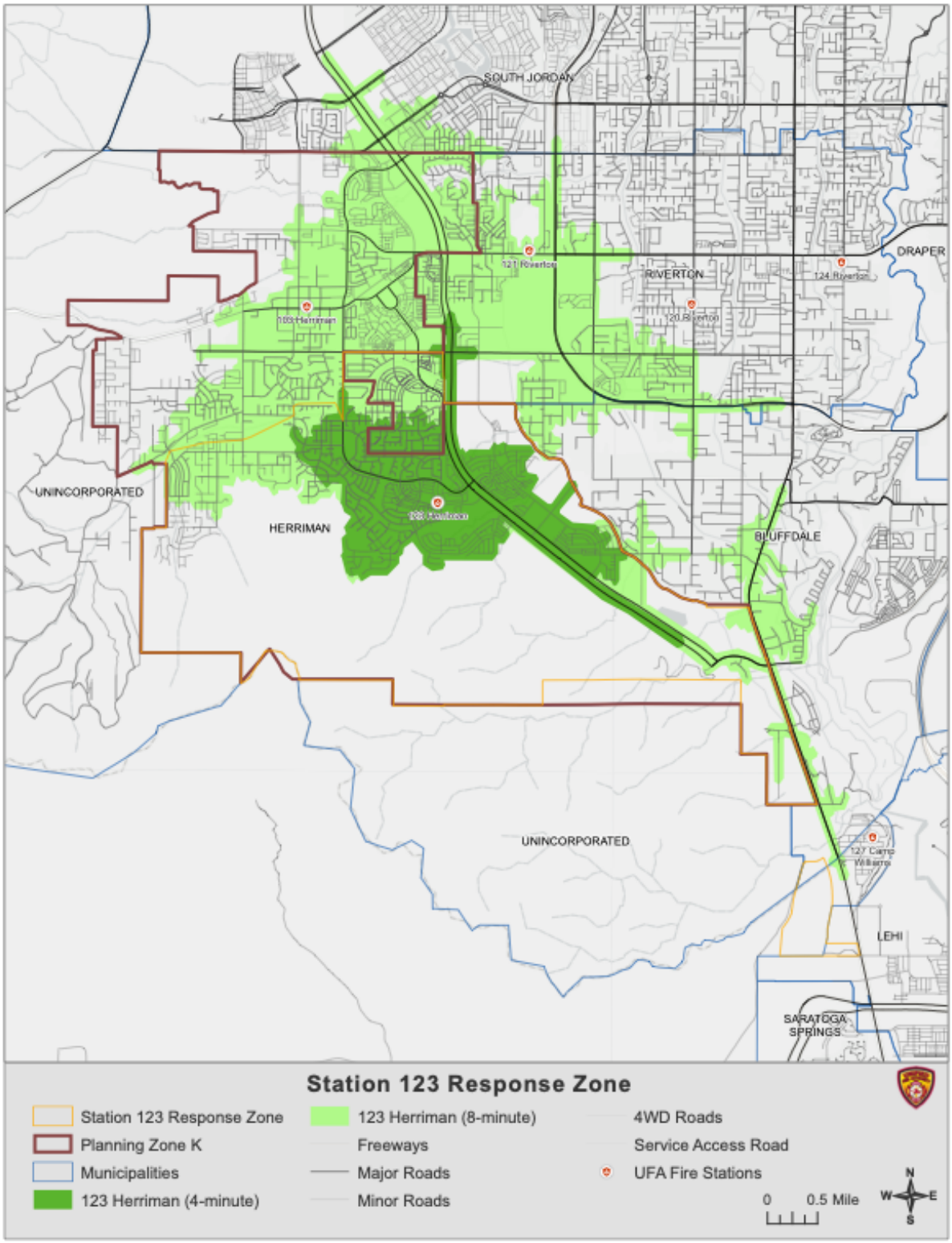
Map 135 - Herriman City with Land Use



Map 136 - 4-Minute Travel Time, UFA and Aid



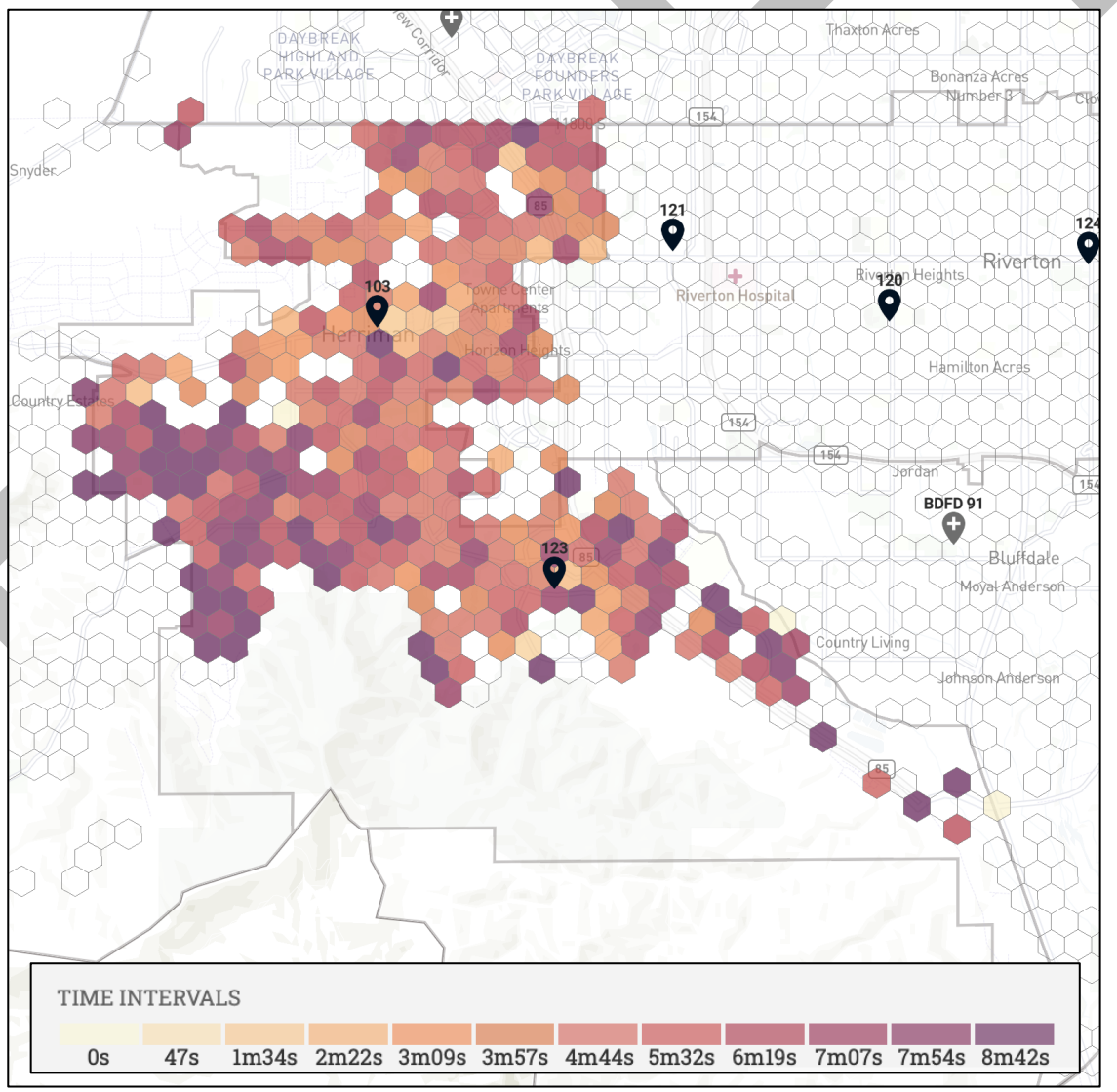
Map 137 - Station 103 4- and 8-Minute Travel Times



Map 138 - Station 123 4- and 8-Minute Travel Times

Herriman City – First Arriver Travel Times

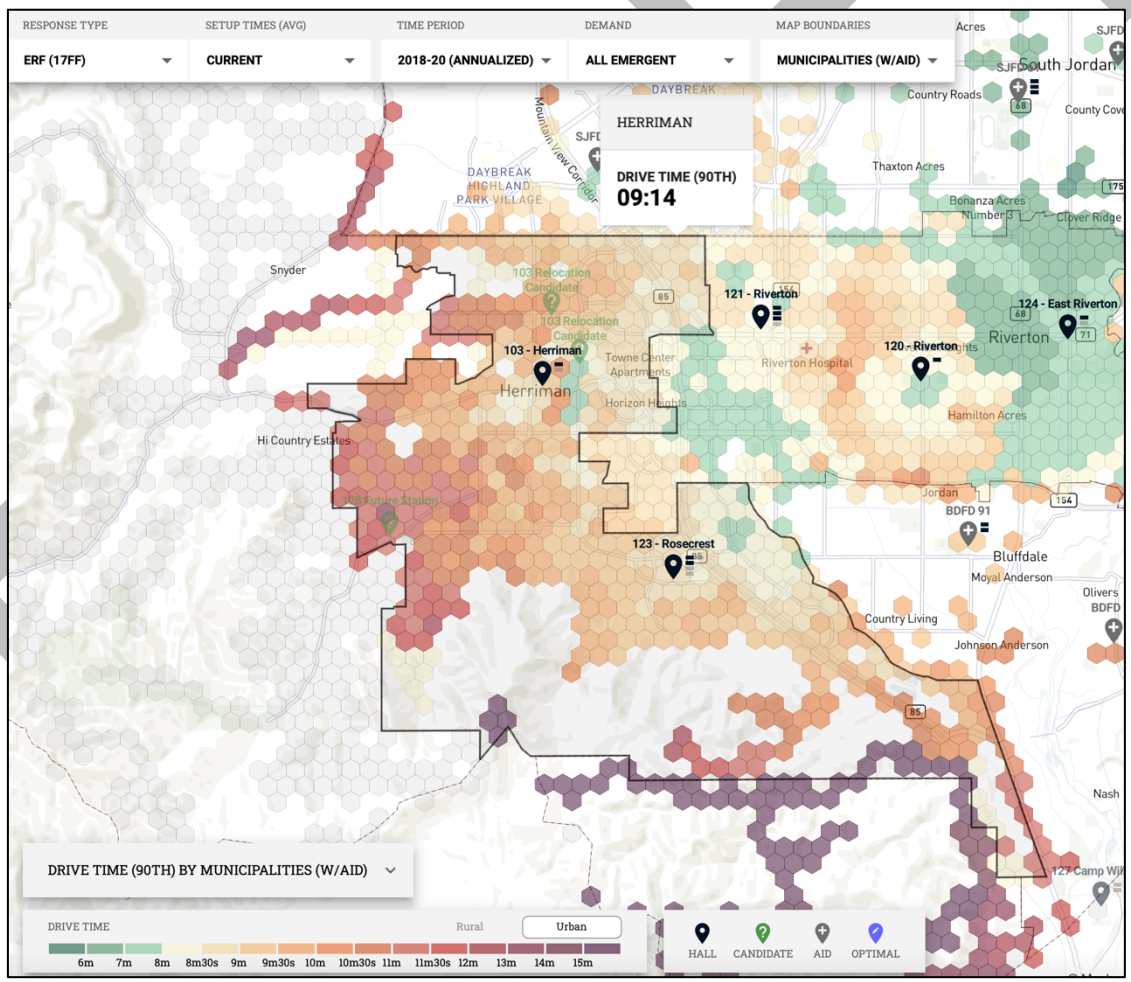
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color, the more delayed the response with the lighter colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within Herriman City, the 90th percentile drive time is 7:57 for fire and 7:11 for EMS.



Map 139 – Herriman City Response Times – All Aid

Herriman City – Residential Fire Effective Response Force (17 FF)

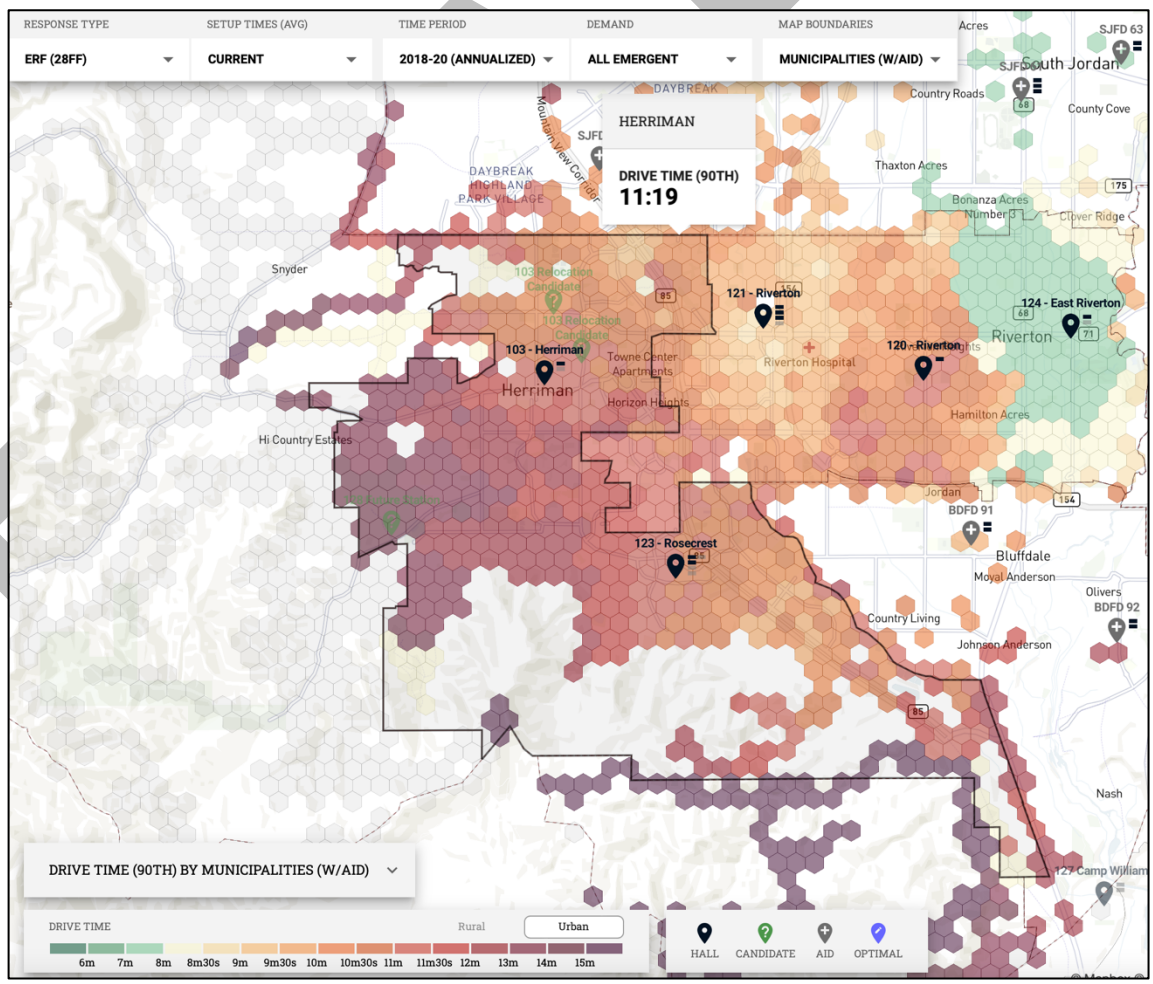
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 9:14.



Map 140 – Herriman City Response Times – Residential Fire Effective Response Force (17 ERF)

Herriman City – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and ten seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 11:19.



Map 141 – Herriman City Response Times – Commercial Fire Effective Response Force (28 FF)

Herriman City Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
High	High	Low	Low	Low	Low	Mod	Low	Low	High	Mod	High

Table 95 - Herriman City Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Herriman City or directly bordering Herriman City. The Mountain View Corridor (SR85) runs north and south on the East side of the city. Several arterials and state roads also run through Herriman, with 13400 South, 12600 South and Rosecrest Road. There are 0 linear miles of Interstate/US Highway, 13.9 linear miles of State Highways, and 215.6 total linear miles of roadway. Herriman City is in the high-risk category for road infrastructure.

Infrastructure – Water

There are two water districts within Herriman City, including the Jordan Valley Water Conservancy District, and the South Valley Sewer District.

Infrastructure – Dams

There are twenty identified dams within Herriman City. Herriman City is in the high-risk category for dam infrastructure.

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Natural Hazards

Within Herriman City, there are no concerns with avalanche areas, however there are several areas that Herriman units respond to that have avalanche as well as backcountry rescue potential within Unincorporated Salt Lake County. Holladay is in the low-risk category for avalanche. There are no identified fault lines that run through the city (see Map 8). Herriman City is in the low-risk category for both liquefaction and fault lines. Herriman City has 0 linear feet of fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Herriman City, with an estimated 37 URM's, which constitutes about 0.15% of the overall URM's within UFA's response areas. Herriman City is in the low-risk category for unreinforced masonry.

Wildland Urban Interface

There is moderate risk of urban interface fires within Herriman City, although on the western border of Herriman, there is high risk of urban interface fires within Unincorporated Salt Lake County.

Hazardous Materials / Tier II Sites

There are three identified HazMat/Tier II Sites within Herriman City, which is in the low-risk category.

Hospitals

Herriman City has no standalone hospitals, which places it in the low-risk category.

Schools

Herriman City has seven elementary schools, two middle schools, three high schools and one private/charter schools within city boundaries, which places it in the high-risk category.

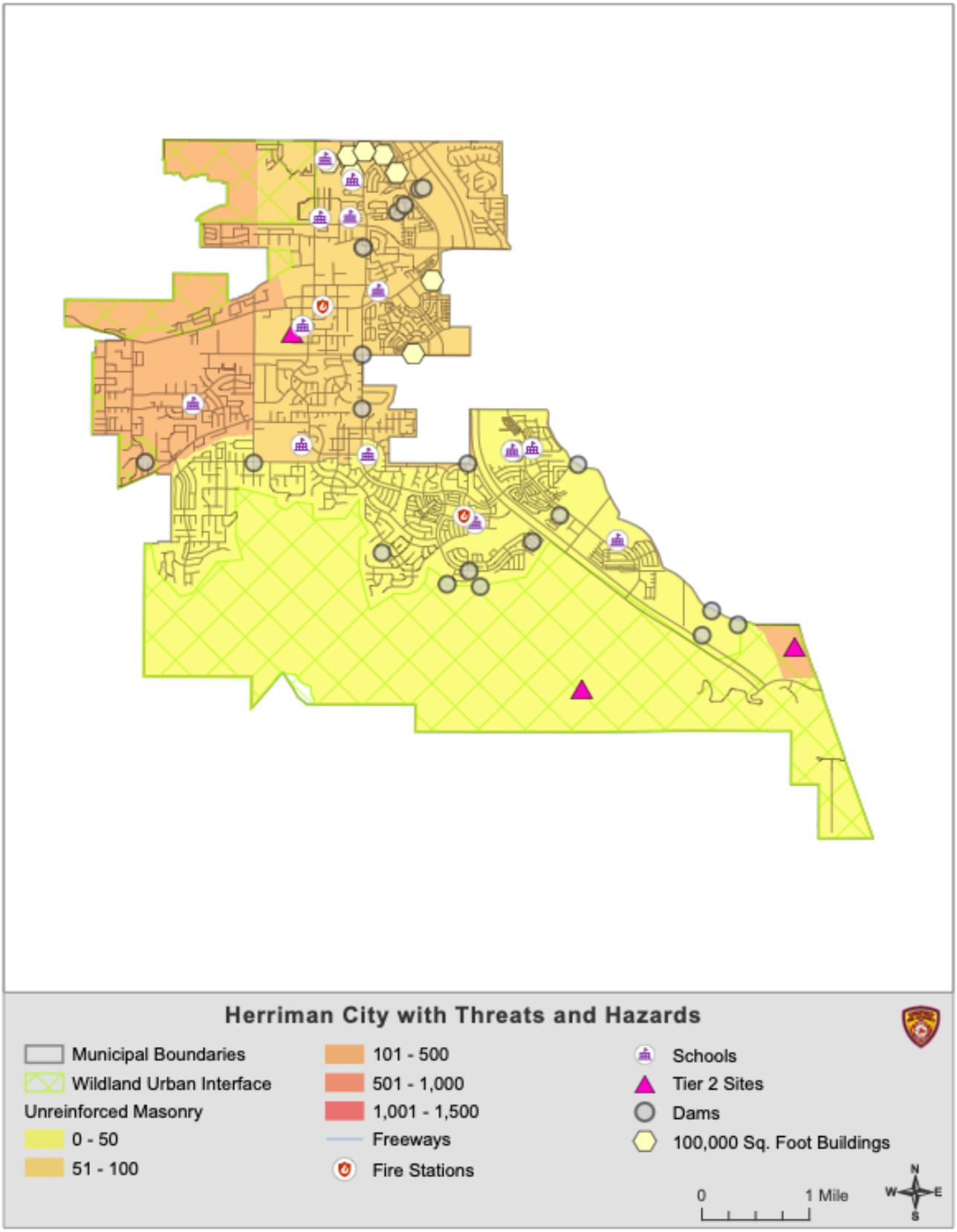
Target Hazards – Structures

Some of the target hazard occupancies in Herriman City include:

- Herriman City Ice Ribbon – 5355 W Herriman Main Street
- Bullfrog Spa Factory - 7017 W 11800 S
- J.L Sorenson Rec Center - 5350 W Main Street
- Ace Hardware - 13342 S 5600 W

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- Jordan Valley Water Treatment Facility - 15305 S 3200 W



Map 142 - Herriman City with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $2,829,642.00 of property loss and a total estimate of $604,522.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Holladay City

Community Risk Assessment



Holladay City Planning Zone

UFA has one station within the Holladay City Planning Zone covering a total of 8.5 square miles with a population of 31,965 and responded to 2,056 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Holladay City	31,965	7.09%	8.5	3,761	Urban

Holladay City has increased its population from 26,472 in 2010 to 31,965 in 2020, showing an increase of 17.18% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 20 demonstrates that Holladay could grow to 43,457 by the year 2040. This growth from 2010-2011 may be due in part to an annexation of a pocket of Unincorporated Salt Lake County and the population associated with that annexation.

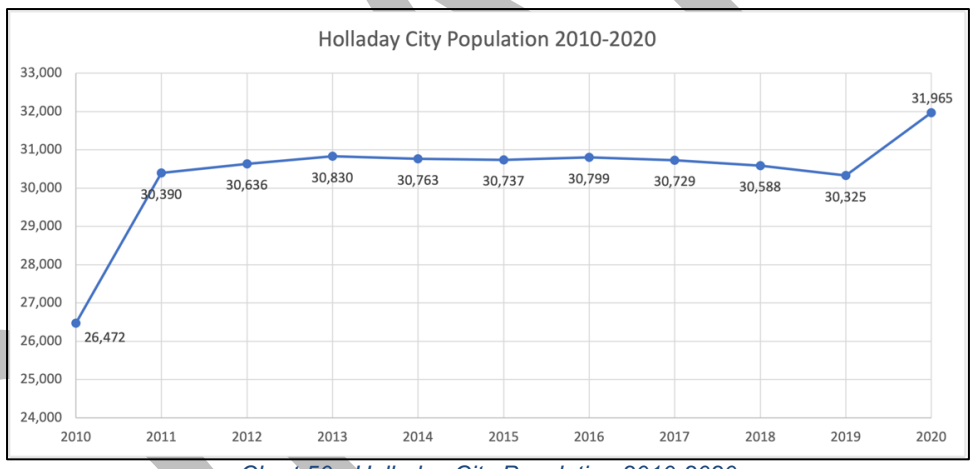


Chart 50 - Holladay City Population 2010-2020

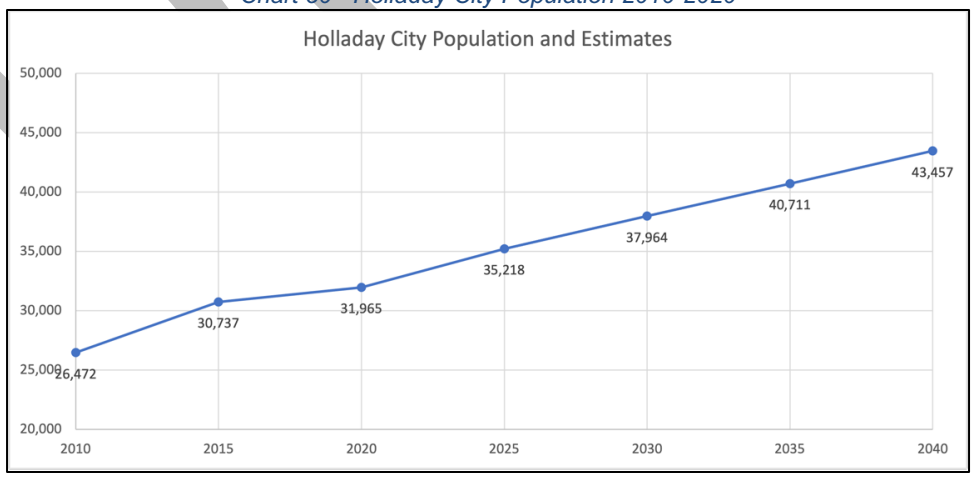


Chart 51 - Holladay City Population and Estimates 2010-2040

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Holladay City Station Information

Station 104 information:

- Owner – Holladay City
- Opened – 2013
- Address – 2210 East Murray-Holladay Road
- Staffing and Apparatus –
  - Type 1, ME 104 (4 persons)
  - PL MA 104 (2 persons – 0900-2100)



Image 14 – Holladay City Station 104

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Holladay City are:

- UFA Station 101 (Millcreek City), with a four-person medic engine and a two-person medic ambulance
- UFA Station 106 (Millcreek City), with a four-person medic ladder and a two-person medic ambulance
- UFA Station 112 (Millcreek City), with a four-person medic engine
- UFA Station 110 (City of Cottonwood Heights), with a four-person medic ladder and a two-person medic ambulance
- UFA Station 116 (City of Cottonwood Heights), with a three-person medic engine
- UFA Station 126 (Midvale City), with a four-person medic engine and a two-person medic ambulance
- Murray City Station 81, with a three-person medic engine and a two-person medic ambulance
- Murray City Station 82, with a three-person medic engine and a two-person medic ambulance

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Holladay City – Incidents by Dispatch Type

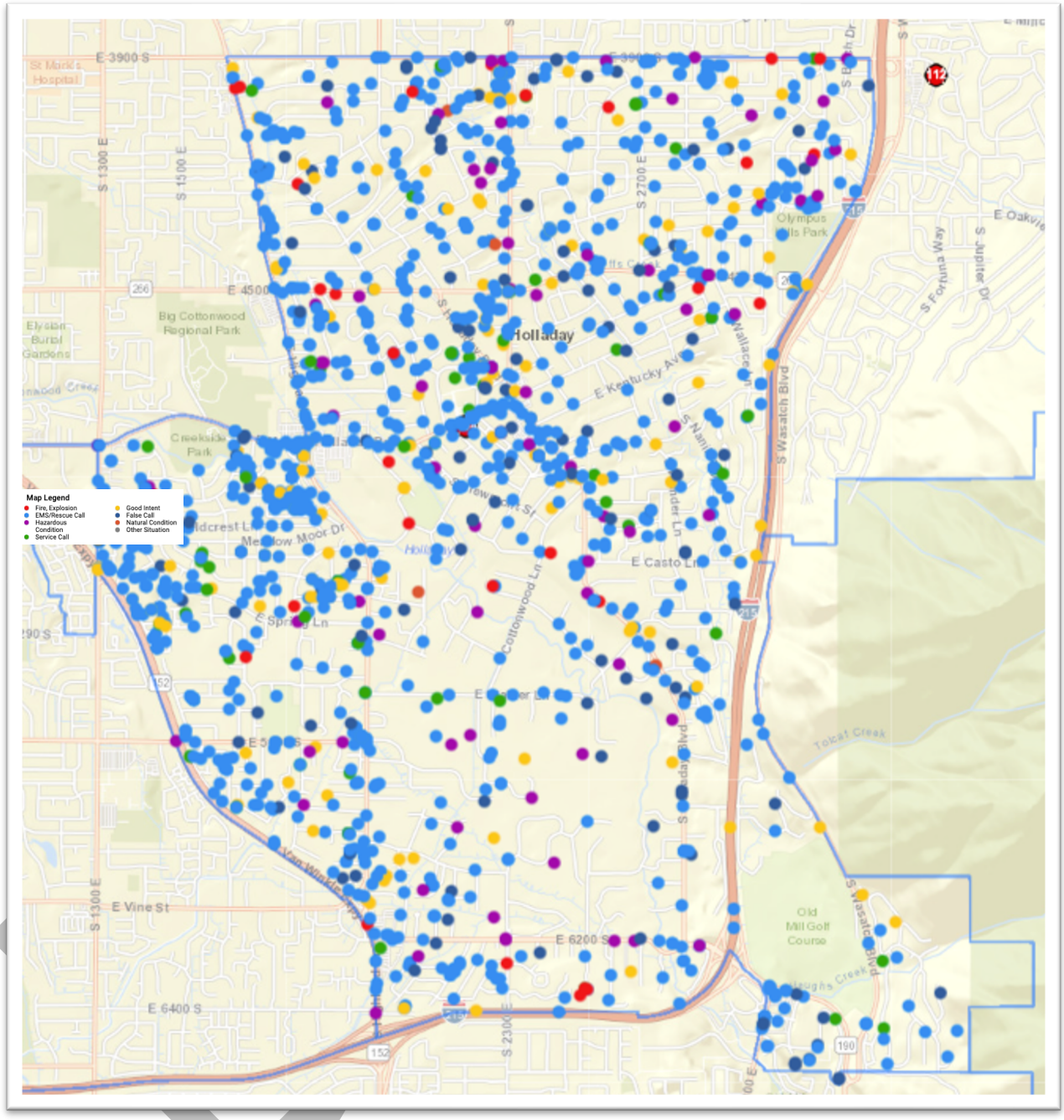
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	32	46	44
EMS	1,185	1,138	1,262
Hazardous Materials	76	67	45
Service Calls	73	93	94
Good Intent	336	274	227
False Calls	134	154	132
Other (Misc., Flood, Overpressure)	6	6	5
Total	1,845	1,778	1,809
Cancelled	211	164	178
Overall Total	2,056	1,942	1,987

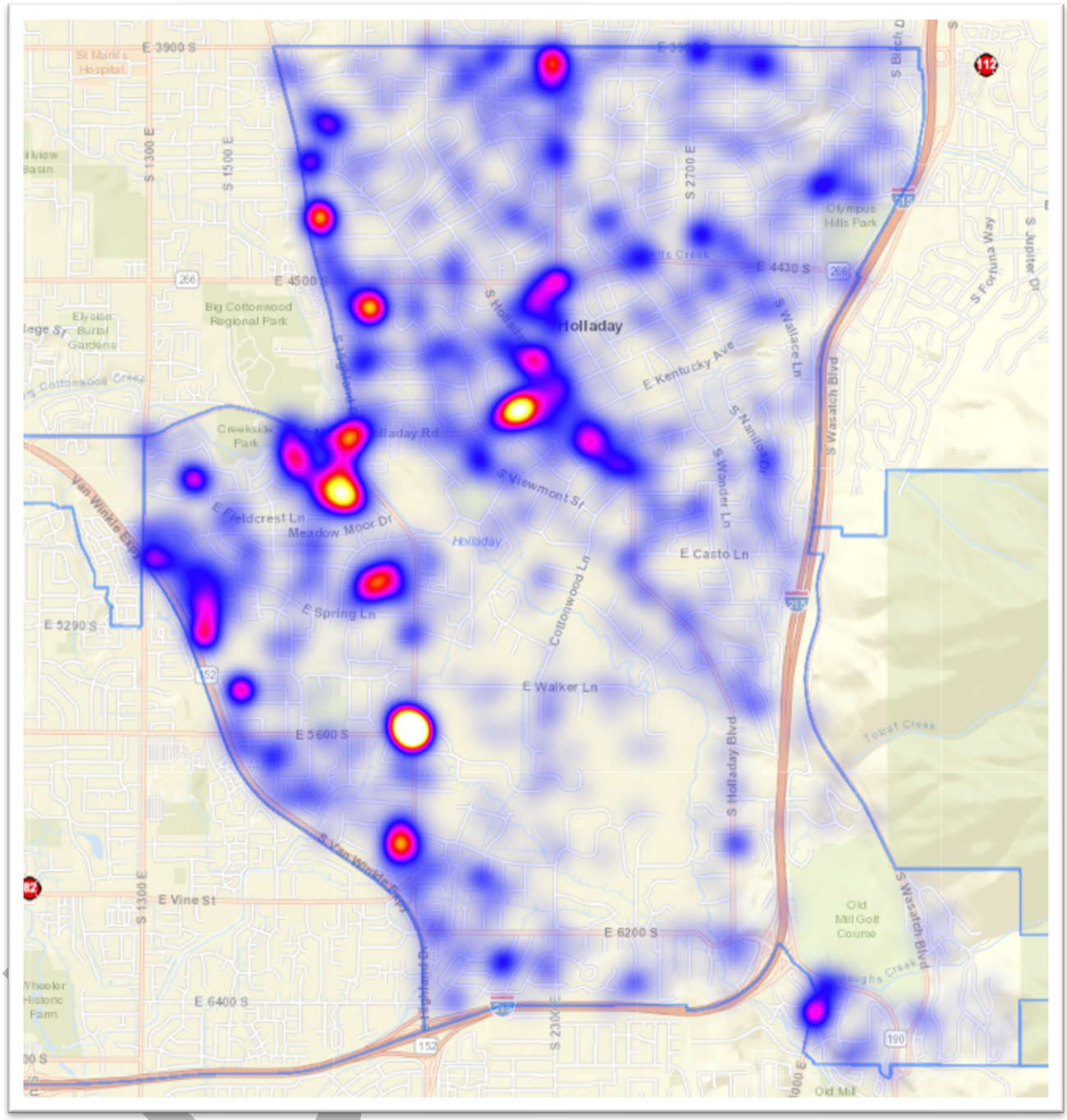
Table 96 – Holladay City Call Type

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Holladay City – 2020 Incidents and Heat Map



Map 143 - Holladay City Incident Calls by Call Type



Map 144 - Holladay City Calls by Call Type

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

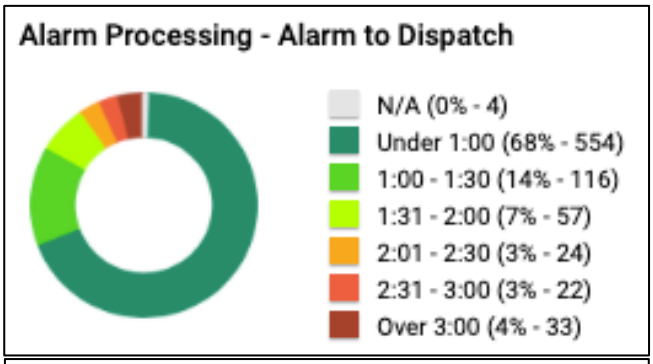
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

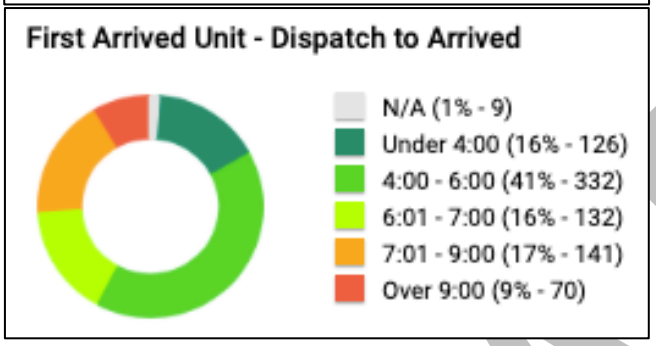
– Of Note…

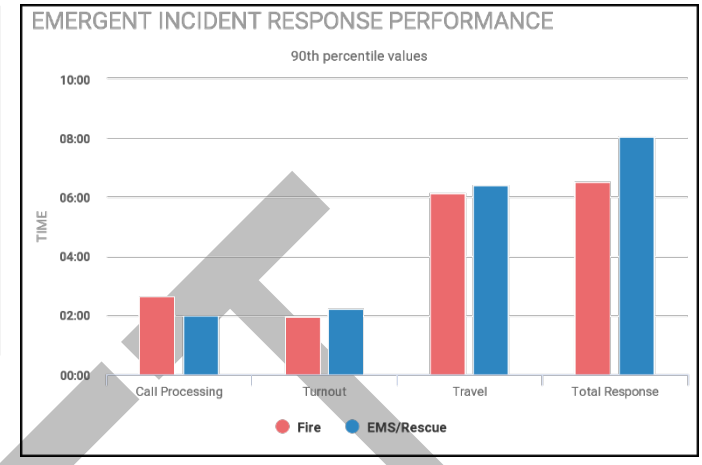
NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

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Holladay City – 2020 Dispatch and Response Times





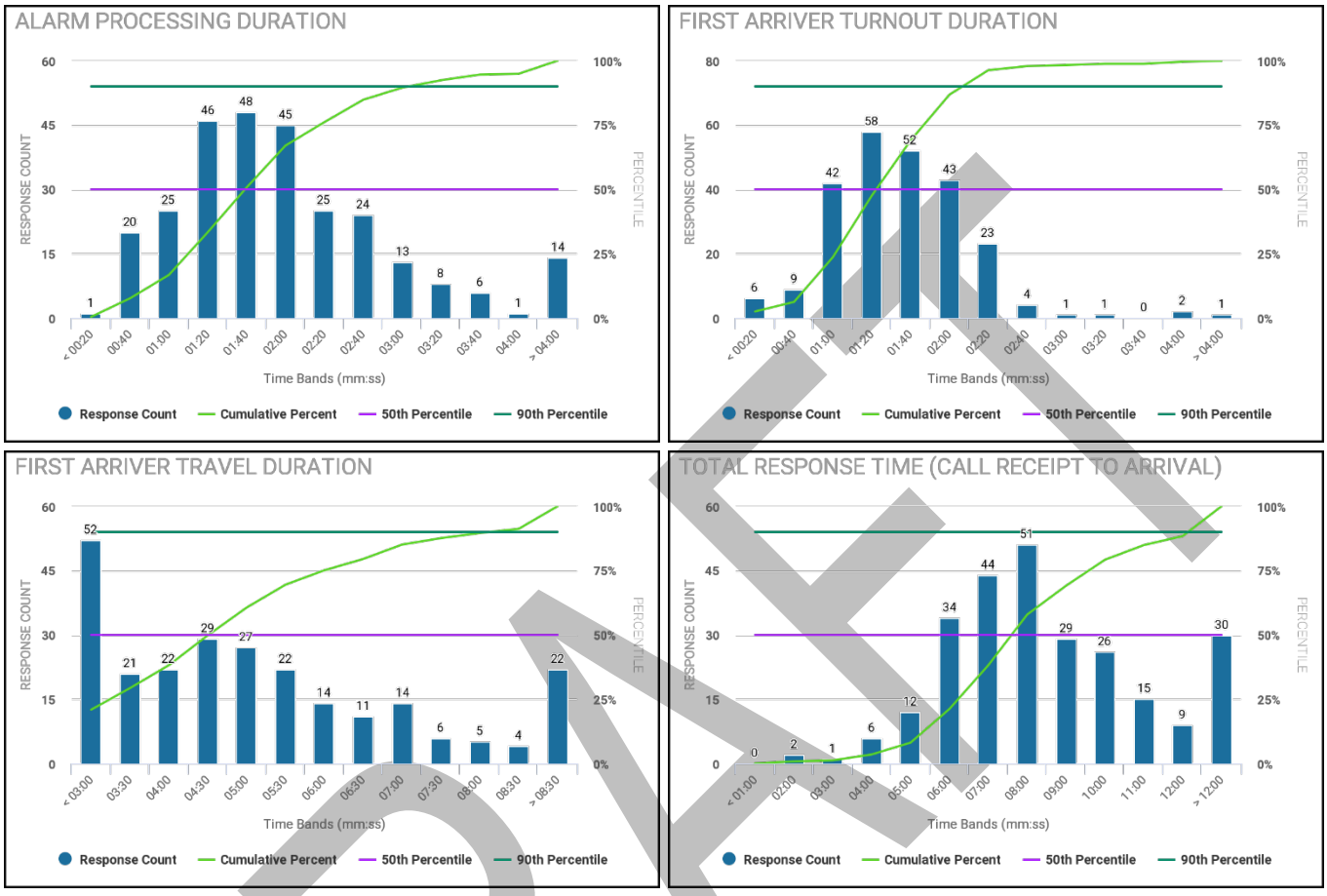


Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Holladay	2:35	2:17	7:47	11:04	1:49	2:16	7:05	9:48
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 97 – Holladay City 2020 Emergent Response Times, 90th percentile values

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Holladay City – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Holladay City (90th percentile). The alarm processing for fire was 2:35 and 1:49 for EMS; turnout time was 2:17 for fire responses and 2:16 for EMS responses; travel time was 7:47 for fire responses and 7:05 for EMS. The 90th percentile total response time was 11:04 for fire and 9:48 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Holladay City – 2020 Incidents by Time of Day

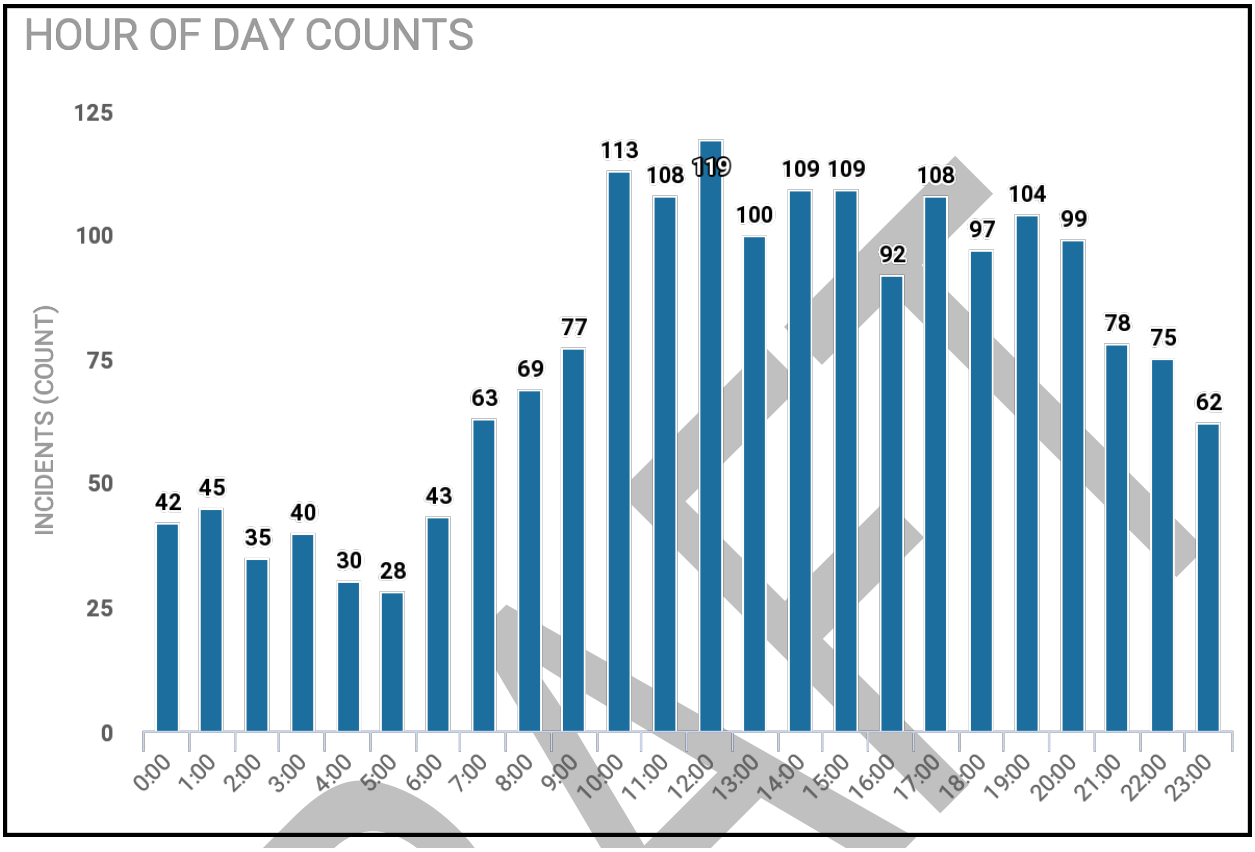


Chart 52 - Holladay City 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Holladay City for all service calls. This chart illustrates that the greatest demand for service delivery begins at 10:00 AM and starts to decrease at 09:00 PM.

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Holladay City – 2020 Incidents by Day of Week

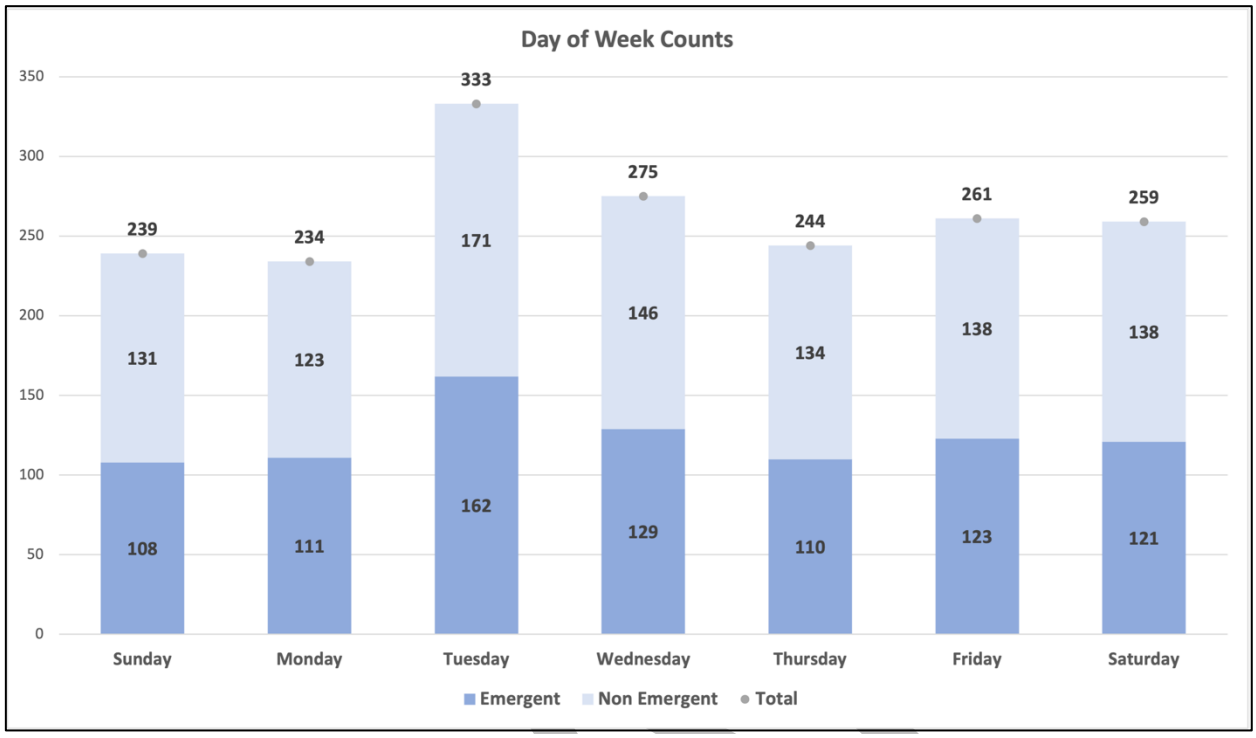


Chart 53 - Holladay City Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls as well as the peak volume for all calls in Holladay City occurring on Tuesday.

Holladay City – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	543	520	507
BLS Transports	625	607	417
Scene Release	95	93	154
Public Assistance	22	13	22
EMS Total Calls	1,263	1,220	1,078
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 98 – Holladay City EMS Calls

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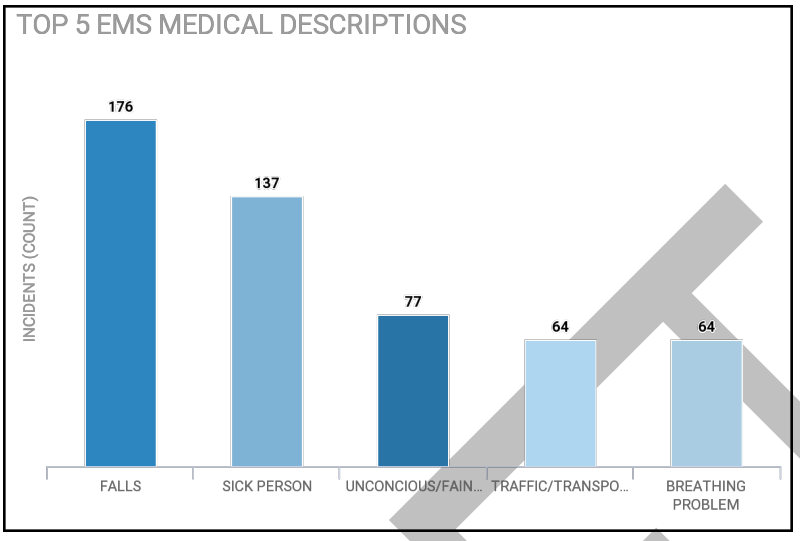


Chart 54 - Top 5 EMS Medical Calls - 2020

Holladay City – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	15	46.9%
Natural Vegetation Fire	6	18.8%
Outside Rubbish Fire	2	6.3%
Vehicle Fire	1	3.1%
Special Outside Fire	4	12.5%
Fire, Other	3	9.4%
Mobile Property Fire	1	3.1%
Total	32	100%

Table 99 – Holladay City 2020 Incidents by Dispatch Type

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Holladay City – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	14	1	18	0	33
Commercial/Industrial	6	9	19	3	37
Educational	13	0	4	1	18
Government	2	0	1	0	3
Healthcare	1	0	1	0	2
Hazardous	Unknown	Unknown	Unknown	Unknown	47*
Storage	0	0	0	0	0
Residential	1,188	4,675	1,957	111	7,931
Residential – Multi Unit	126	182	61	12	381
High Rise	N/A	N/A	2	3	5
Total	1,350	4,867	2,063	130	8,457

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

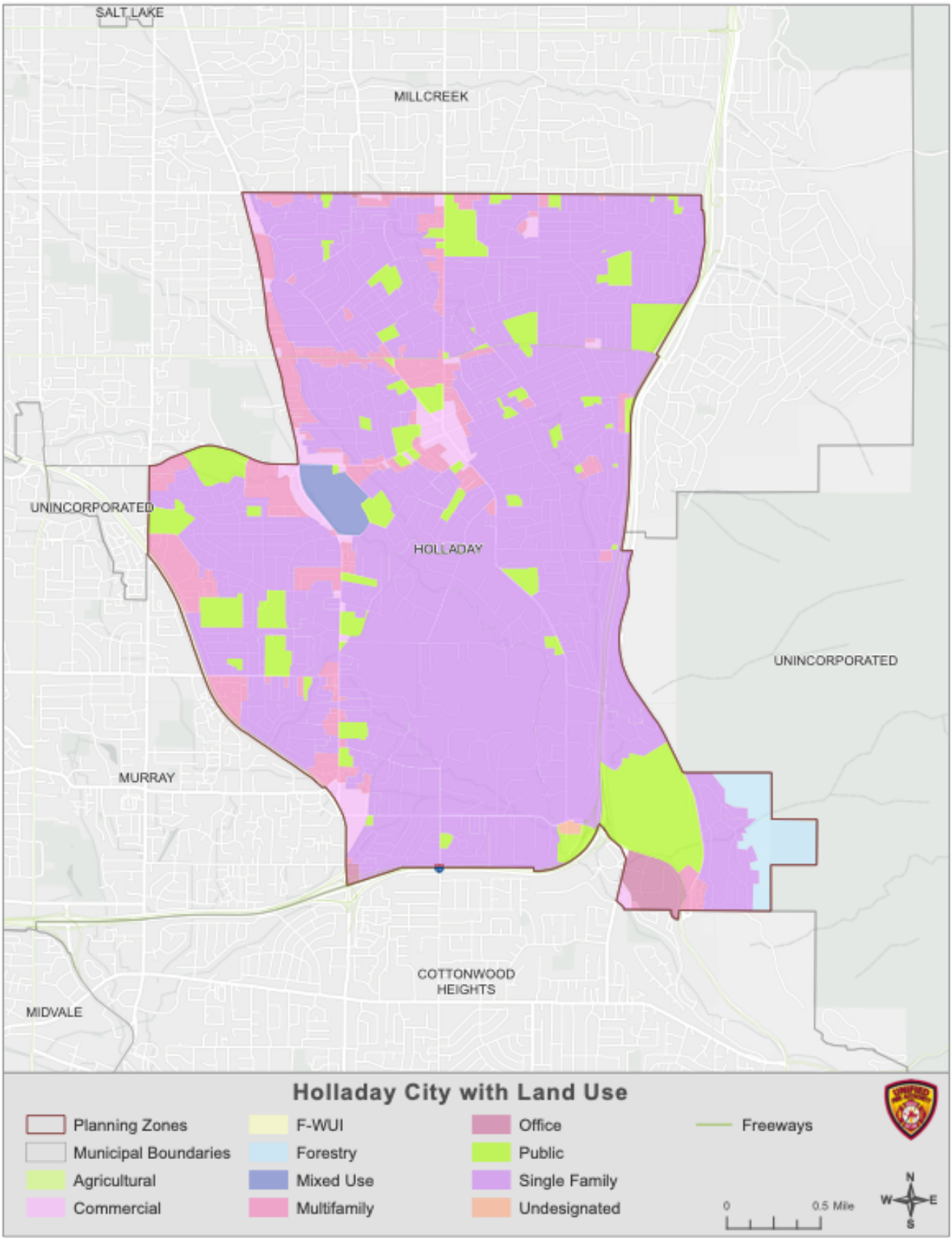
Table 100 – Holladay City Building Occupancy and Risk Categories

Building Size / Considerations

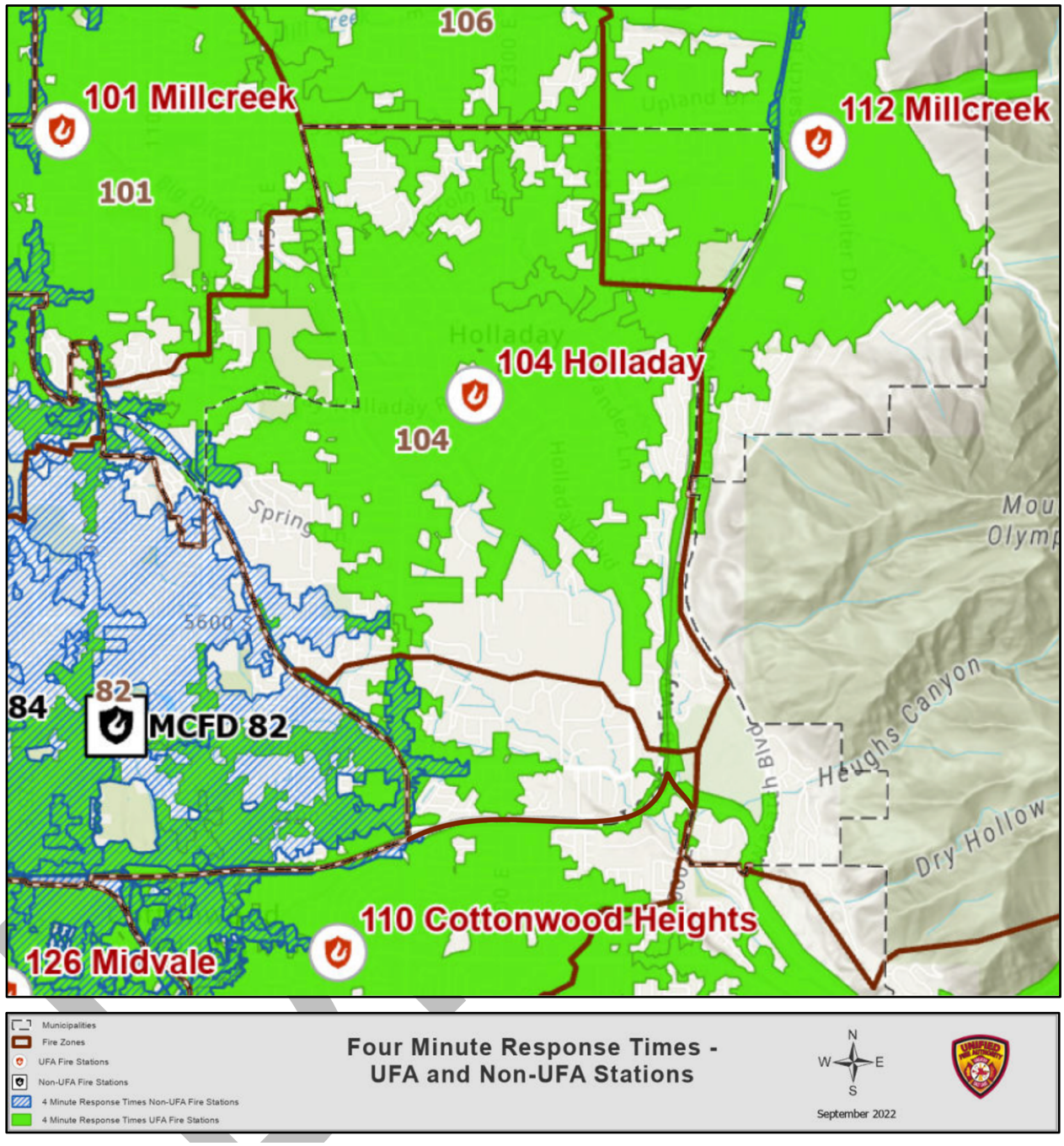
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

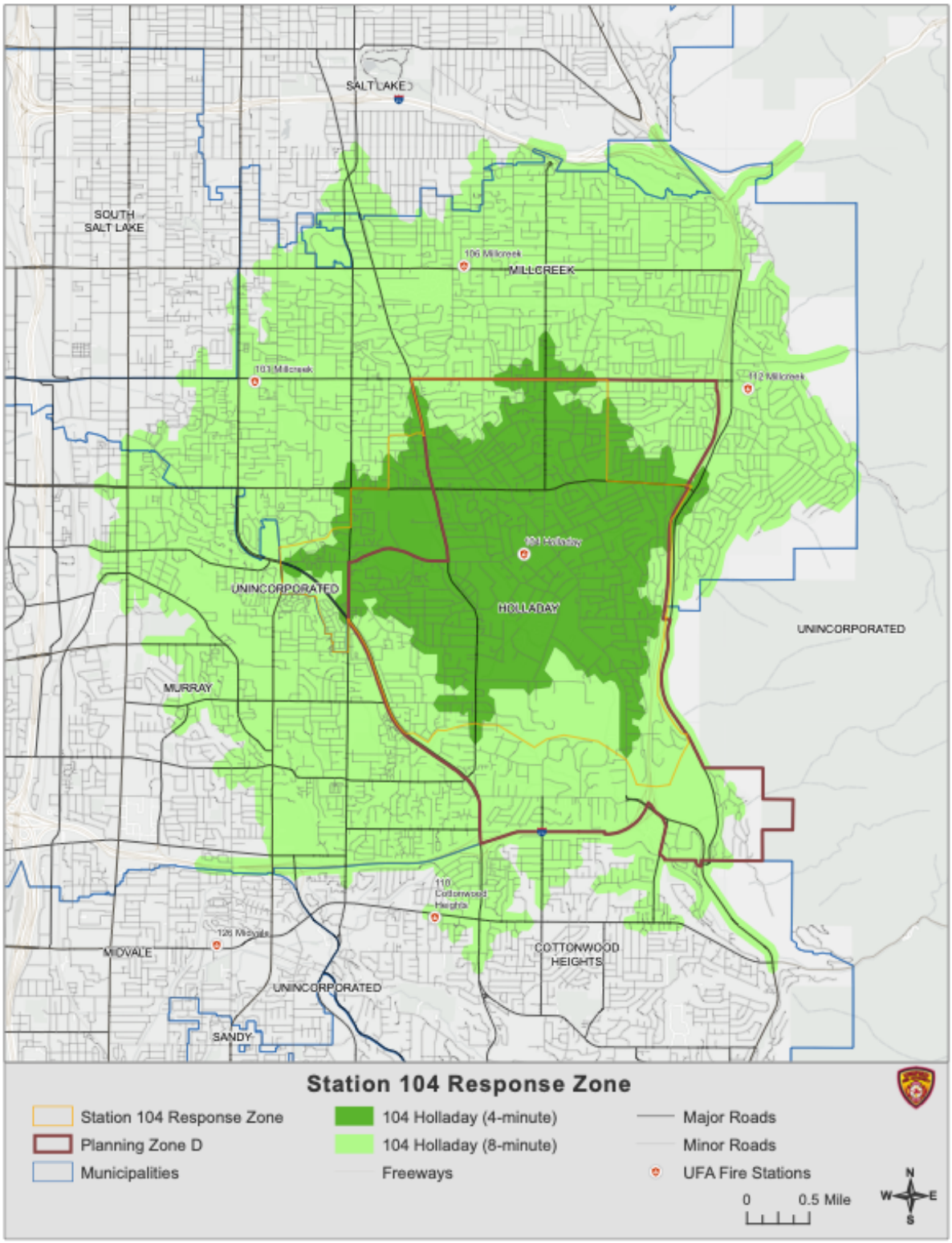
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Map 145 - Holladay City with Land Use



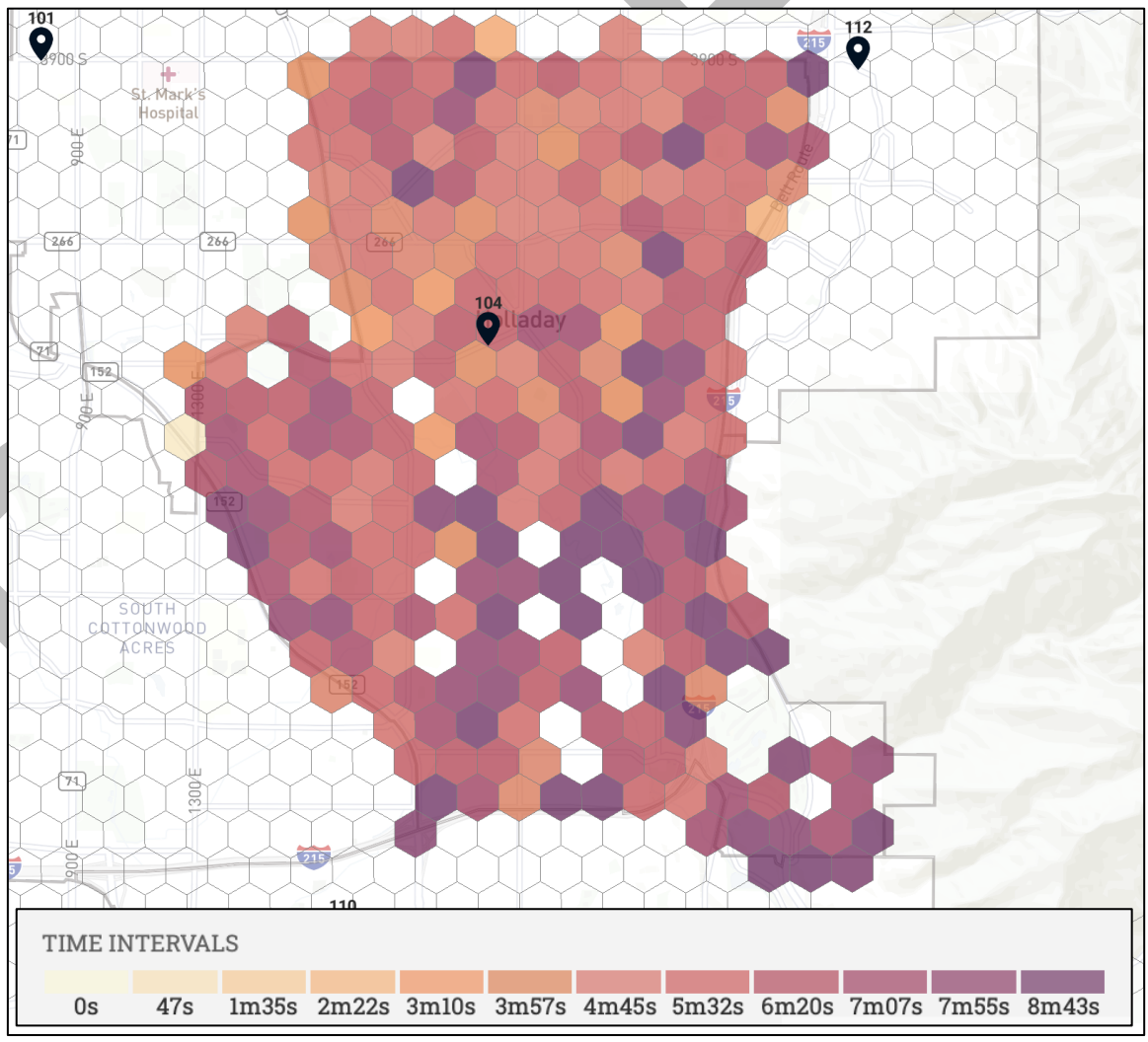
Map 146 - 4-Minute Travel Time, UFA and Aid



Map 147 - Station 104 4- and 8-Minute Travel Times

Holladay City – First Arriver Travel Times

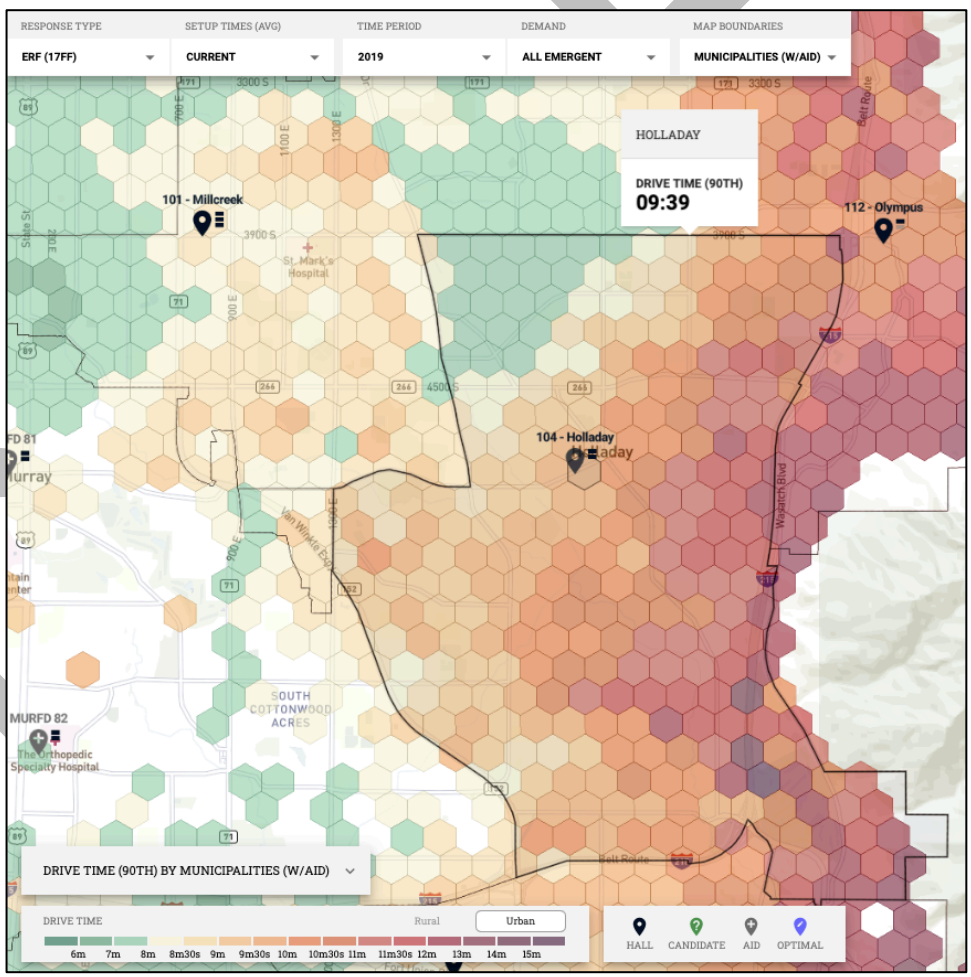
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within Holladay City, the 90th percentile drive time is 7:47 for fire and 7:05 for EMS.



Map 148 – Holladay City Response Times – All Aid

Holladay City – Residential Fire Effective Response Force (17 FF)

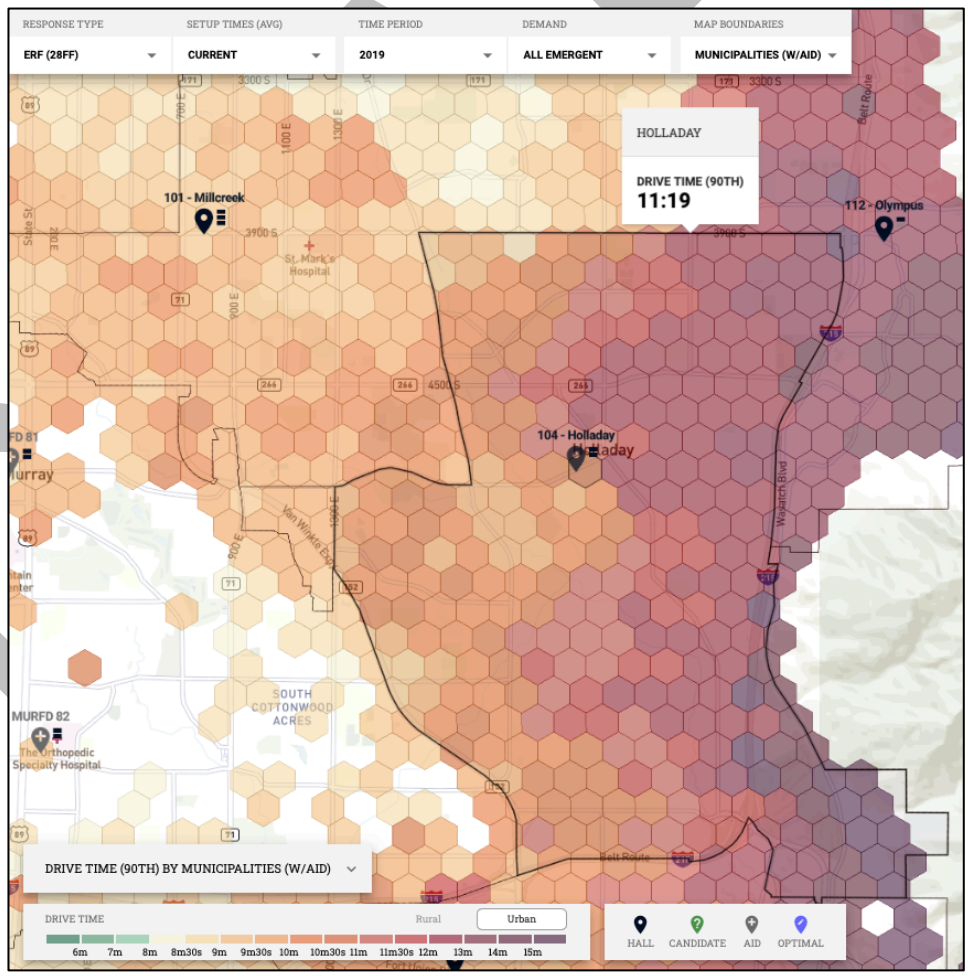
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 9:39.



Map 149 – Holladay City Response Times – Residential Fire Effective Response Force (17 ERF)

Holladay City – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 11:19.



Map 150 – Holladay City Response Times – Commercial Fire Effective Response Force (28 FF)

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Holladay City Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Mod	Low	Mod	Mod	Low	High	Low	Low	Low	High	Mod	Mod

Table 101 - Holladay City Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Holladay City or directly bordering Holladay City. I-215 runs on the south and east borders of the city. Several arterials and state roads also run through Holladay, with 4500 South, 1300 East, Murray-Holladay Road, Holladay Boulevard, and Highland Drive. There are 9.86 linear miles of Interstate/US Highway, 7.16 linear miles of State Highways, and 147.2 total linear miles of roadway. UTA also runs bus routes through the city, with the main bus routes running on 4500 South and down Holladay Boulevard. Holladay City is in the moderate-risk category for road infrastructure.

Infrastructure – Water

There are several water districts within Holladay City, including the Holladay Water District, the Jordan Valley Water Conservancy District, and Salt Lake City Public Utilities.

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Infrastructure – Dams

There are two identified dams within Holladay City. Holladay City is in the low-risk category for dam infrastructure.

Natural Hazards

Within Holladay City, there are no concerns with avalanche areas, however there are several areas that Holladay units respond to that have avalanche as well as backcountry rescue potential within Unincorporated Salt Lake County. Holladay is in the low-risk category for avalanche. There are several fault lines that run north-south through the city (see Map 8) and are components of the Wasatch Fault. Holladay City is in the moderate-risk category for both liquefaction and fault lines. Holladay City has roughly 51,600 linear feet of fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Holladay City, with an estimated 4,590 URM's, which constitutes about 18.7% of the overall URM's within UFA's response areas. Holladay City is in the high-risk category for unreinforced masonry.

Wildland Urban Interface

There is little risk of urban interface fires within Holladay City, although on the eastern border of Holladay, there is high risk of urban interface fires within Unincorporated Salt Lake County. Holladay City is in the low-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are two identified HazMat/Tier II Sites within Holladay City, which is in the low-risk category.

Hospitals

Holladay City has no standalone hospitals, which places it in the low-risk category.

Schools

Holladay City has five elementary schools, two middle schools, one high school, and three private/charter schools within city boundaries, which places it in the high-risk category.

Target Hazards – Structures

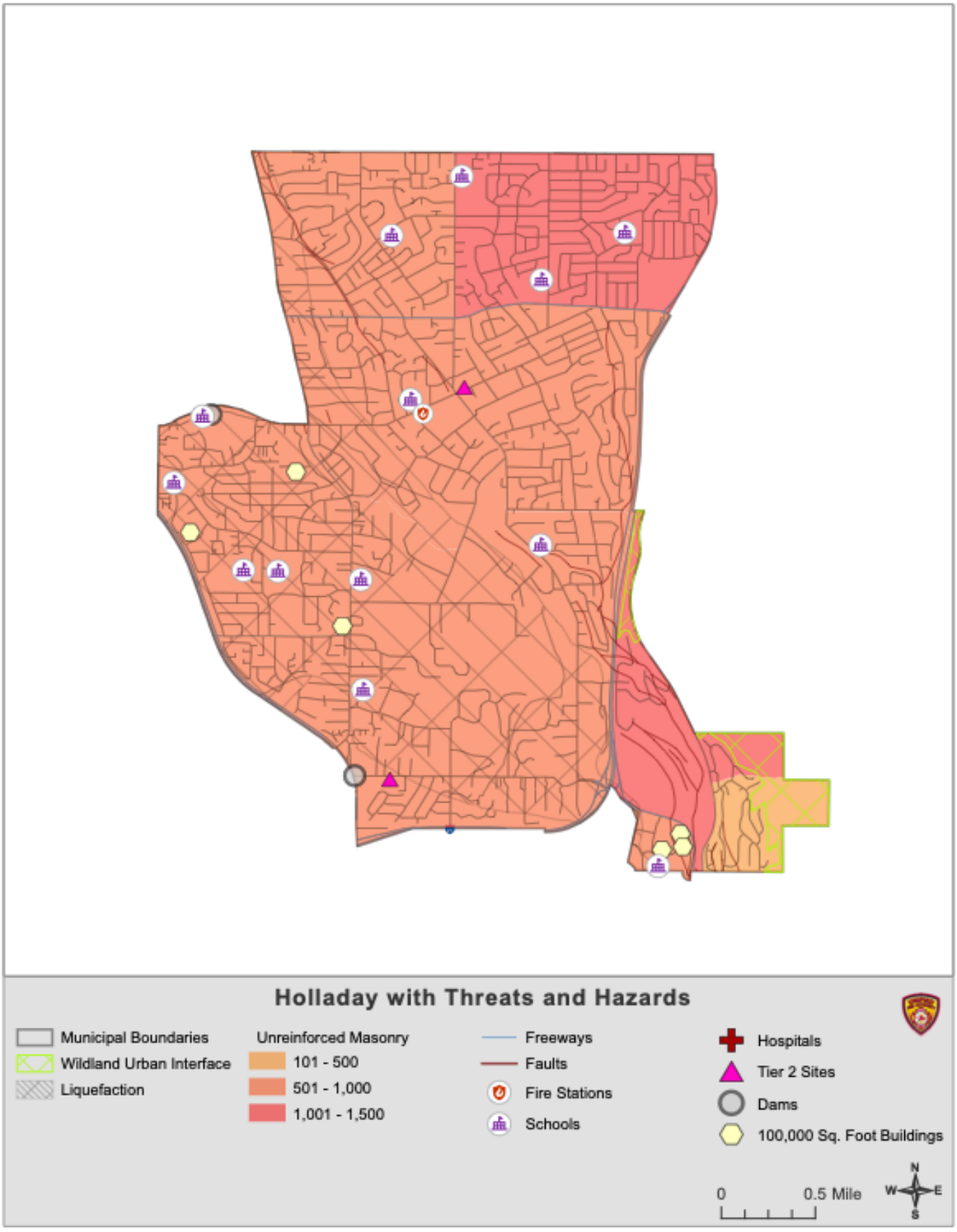
Some of the target hazard occupancies in Holladay City include:

- Spring Garden Senior Living at- 2728 E 3900 S

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- The Ridge Cottonwood Care – 5600 S Highland Dr.
- Holladay Health Care Center – 4782 S Holladay Blvd.
- Highland Health Care Center – 4782 S Highland Dr.
- Megaplex Movie Theatre/Mall – 1945 E Murray Holladay Rd.

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Map 151 - Holladay City with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $7,992,800.00 of property loss and a total estimate of $1,520,757.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has a swift water team, ice rescue team, as well as a dive rescue team. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house Water Rescue Companies.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Kearns Metro Township

Community Risk Assessment



Kearns Metro Township Planning Zone

UFA has one station within the Kearns Metro Township Planning Zone covering a total of 4.63 square miles with a population of 36,723 and responded to 2,476 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Kearns	36,723	8.14%	4.63	7,932	Urban

Kearns has increased its population from 35,773 in 2010 to 36,723 in 2020, showing an increase of 2.59% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 54 demonstrates that Kearns could possibly grow to 38,437 by the year 2040.

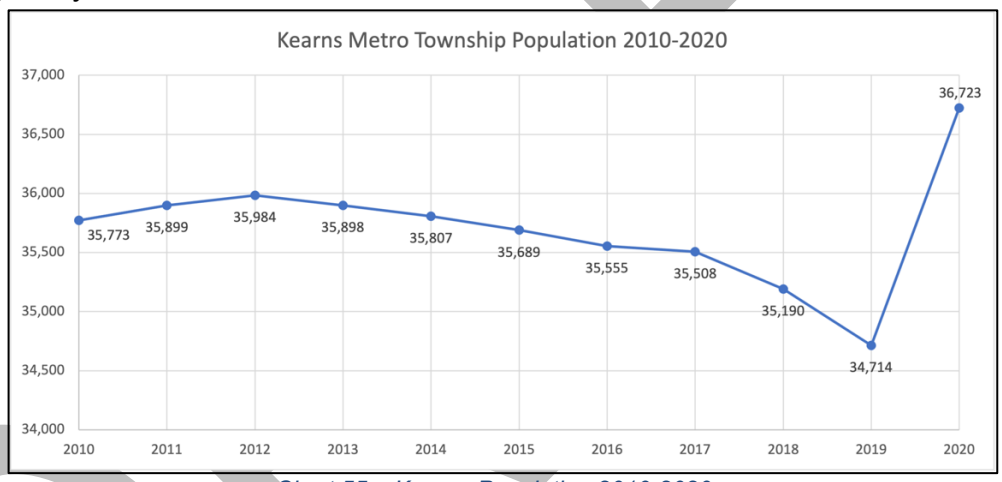


Chart 55 – Kearns Population 2010-2020

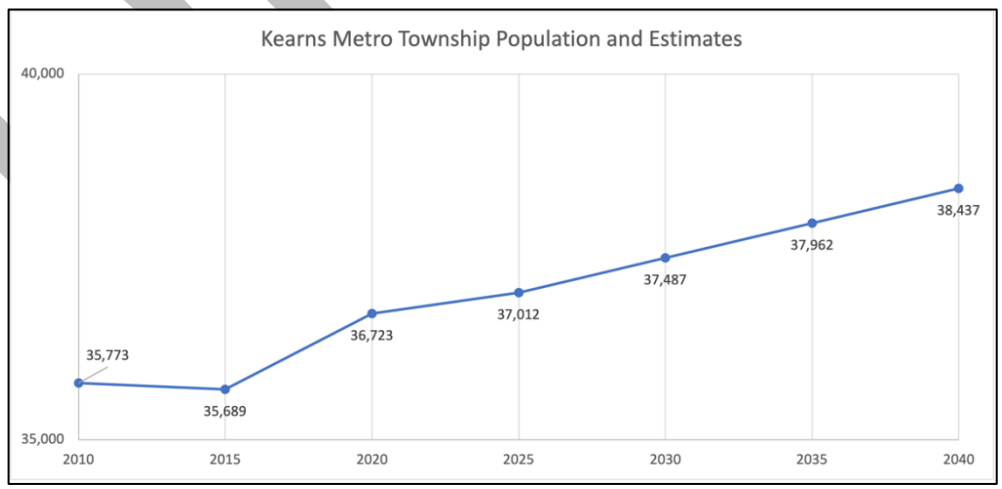


Chart 56 – Kearns Population and Estimates 2010-2040

Kearns Station Information

Station 109 information:

- Owner – UFSA
- Opened – 1991
- Address – 4444 West 5415 South
- Staffing and Apparatus –
  - Type 1, ML 109 (4 persons)
  - MA 109 (2 persons)



Image 15 – Kearns Station 109

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to the Kearns are:

- UFA Station 101 (Millcreek), with a four-person medic engine and a two-person medic ambulance
- UFA Station 111 (Magna), with a four-person medic ladder and a two-person medic ambulance
- UFA Station 117 (Taylorsville), with a four-person medic engine, a four-person medic ladder and a two-person medic ambulance
- UFA Station 118 (Taylorsville), with a four-person medic engine and a two-person medic ambulance
- UFA Station 125 (Midvale City), with a four-person medic engine and a two-person peak-load medic ambulance
- Murray Station 81, with a three-person medic engine and a two-person medic ambulance
- Murray Station 83, with a three-person medic engine and a two-person medic ambulance

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- South Salt Lake Station 42, with a three-person engine and a two-person medic ambulance
- West Jordan Station 52, with a three-person engine and a two-person medic ambulance
- West Jordan Station 53, with a three-person engine and a two-person medic ambulance
- West Jordan Station 54, with a three-person engine and a two-person medic ambulance
- West Jordan Station 55, with a three-person engine and a two-person medic ambulance
- West Valley Station 71, with a three-person medic engine and a two-person medic ambulance
- West Valley Station 72, with a three-person engine and a two-person medic ambulance
- West Valley Station 73, with a three-person engine and a two-person medic ambulance
- West Valley Station 74, with a three-person ladder and a two-person medic ambulance
- West Valley Station 75, with a three-person engine and a two-person medic ambulance
- West Valley Station 76, with a three-person engine

Kearns – Incidents by Dispatch Type

The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

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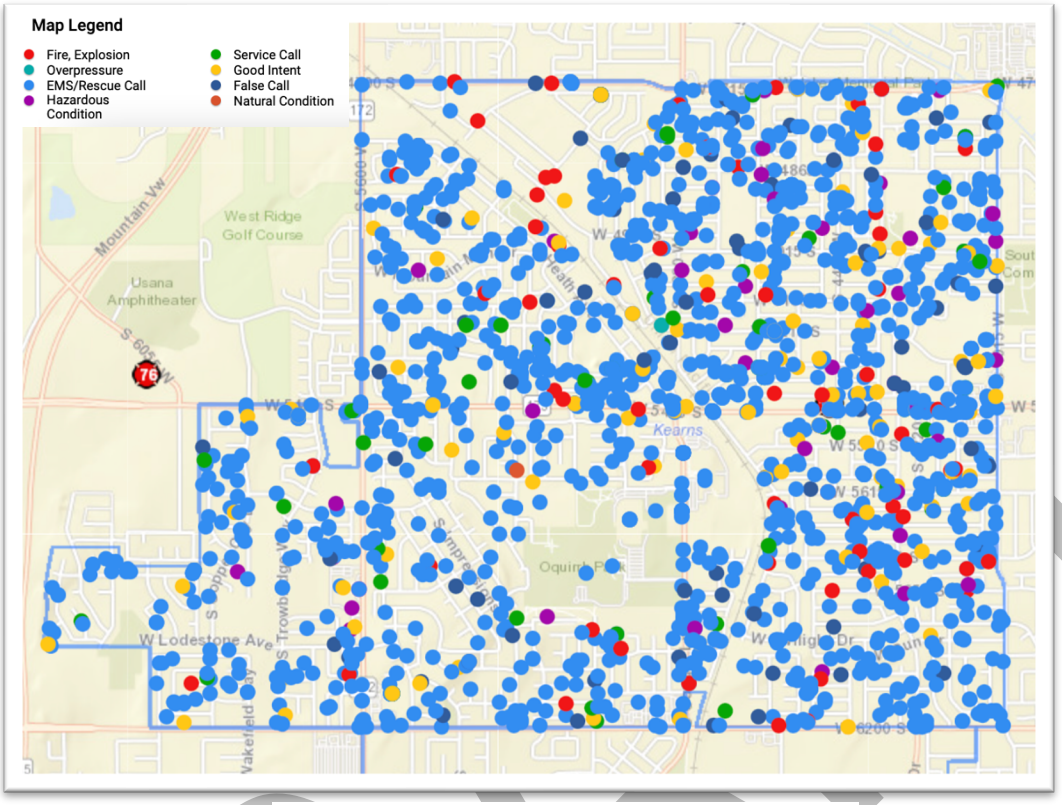
	CY 2020	CY 2019	CY 2018
Fire Suppression	72	53	43
EMS	1,649	1,536	1,596
Hazardous Materials	43	28	28
Service Calls	76	92	96
Good Intent	328	226	246
False Calls	83	76	65
Other (Misc., Flood, Overpressure)	2	3	1
Total	2,253	2,014	2,075

Cancelled	223	130	169
Overall Total	2,476	2,144	2,244

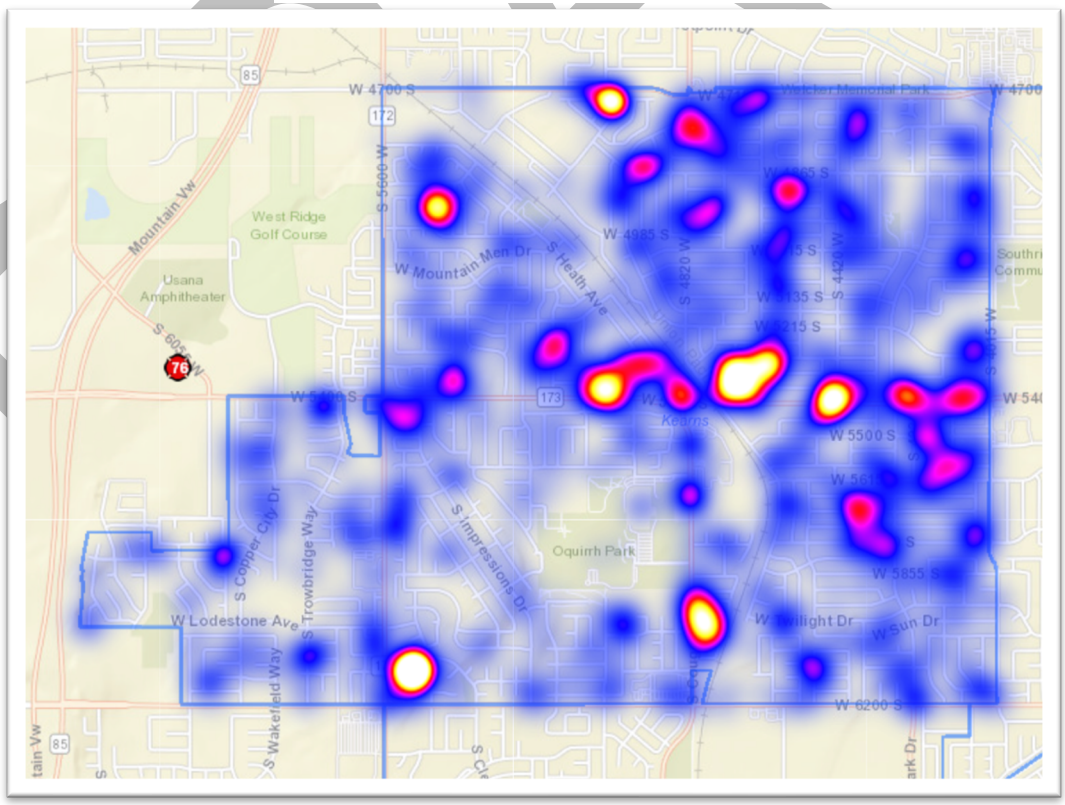
Table 102 – Kearns Call Type

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Kearns – 2020 Incidents and Heat Map



Map 152 – Kearns Incident Calls by Type



Map 153 – Kearns Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

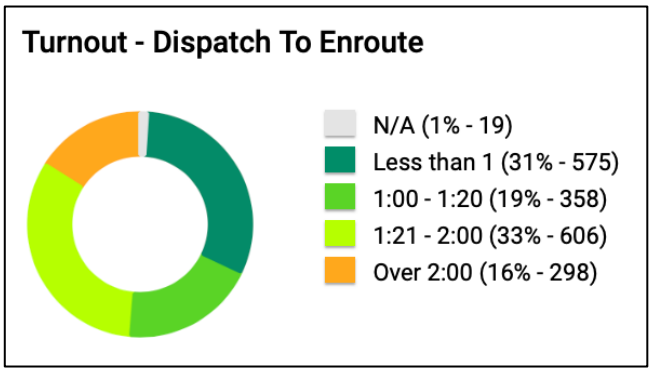
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

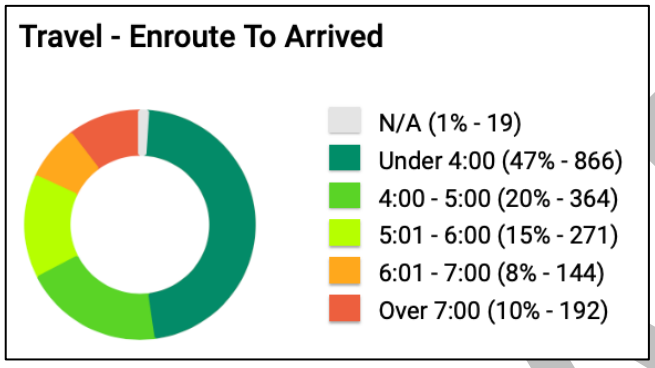
– Of Note…

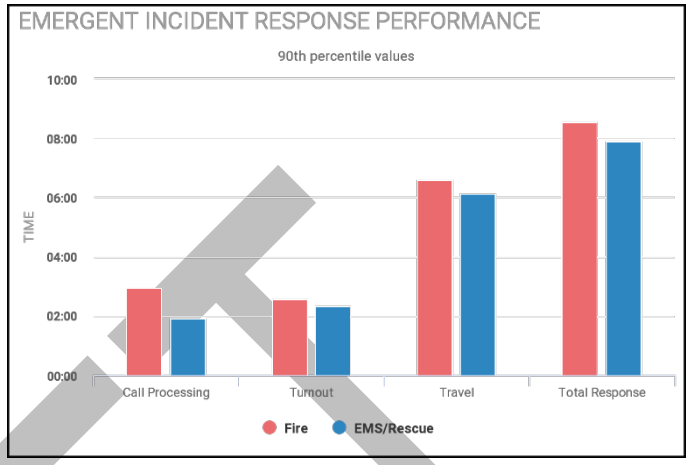
NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

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Kearns – 2020 Dispatch and Response Times





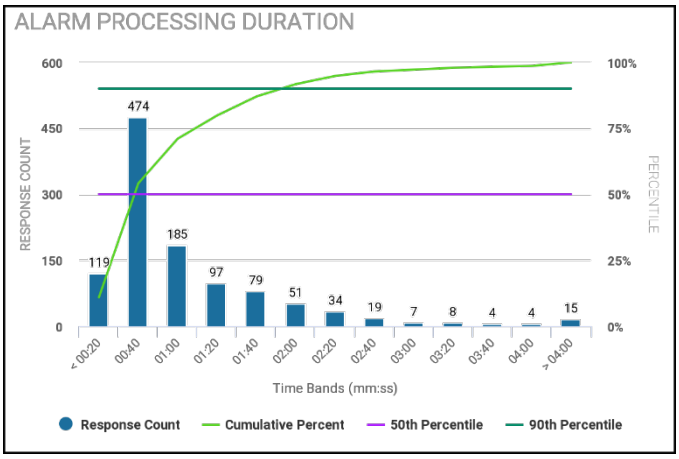


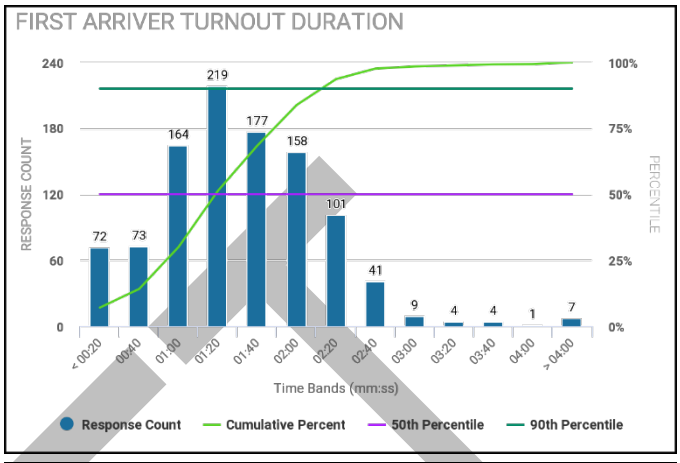
Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Kearns	2:02	2:10	6:23	9:06	1:47	2:10	6:37	9:03
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

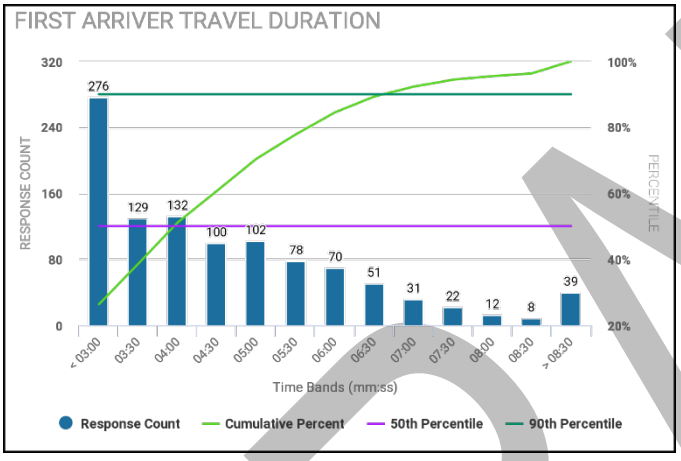
Table 103 – Kearns 2020 Emergent Response Times, 90th percentile values

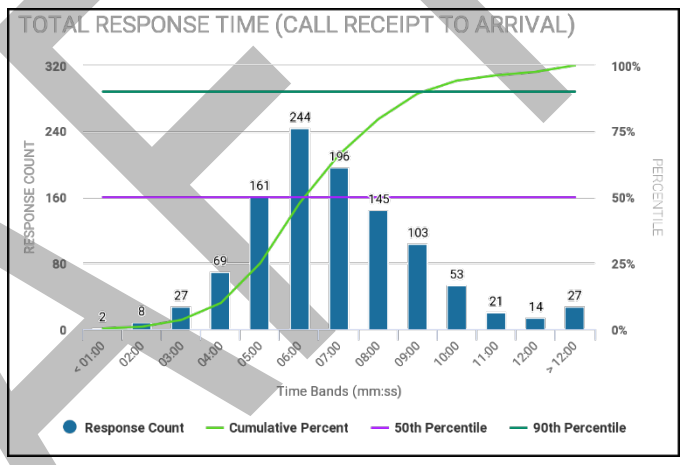
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Kearns – 2020 Turnout and Travel Time









The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Kearns (90th percentile). The alarm processing for fire was 2:02 and 1:47 for EMS; turnout time was 2:10 for fire responses and 2:10 for EMS responses; travel time was 6:23 for fire responses and 6:37 for EMS. The 90th percentile total response time was 9:06 for fire and 9:03 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Kearns – 2020 Incidents by Time of Day

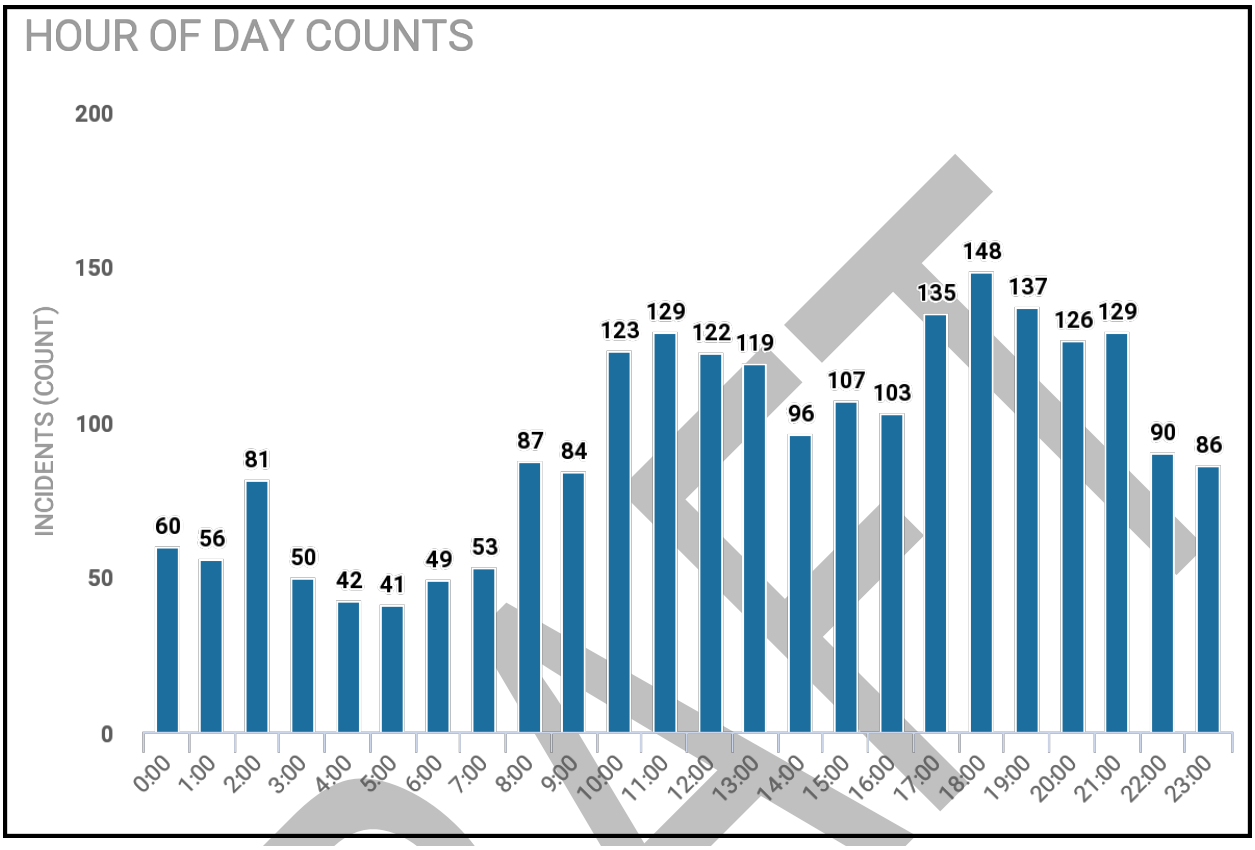


Chart 57 – Kearns 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Kearns for all service calls. This chart illustrates that the greatest demand for service delivery begins to increase at 08:00 AM and starts to decrease at 7:00 PM.

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Kearns – 2020 Incidents by Day of Week

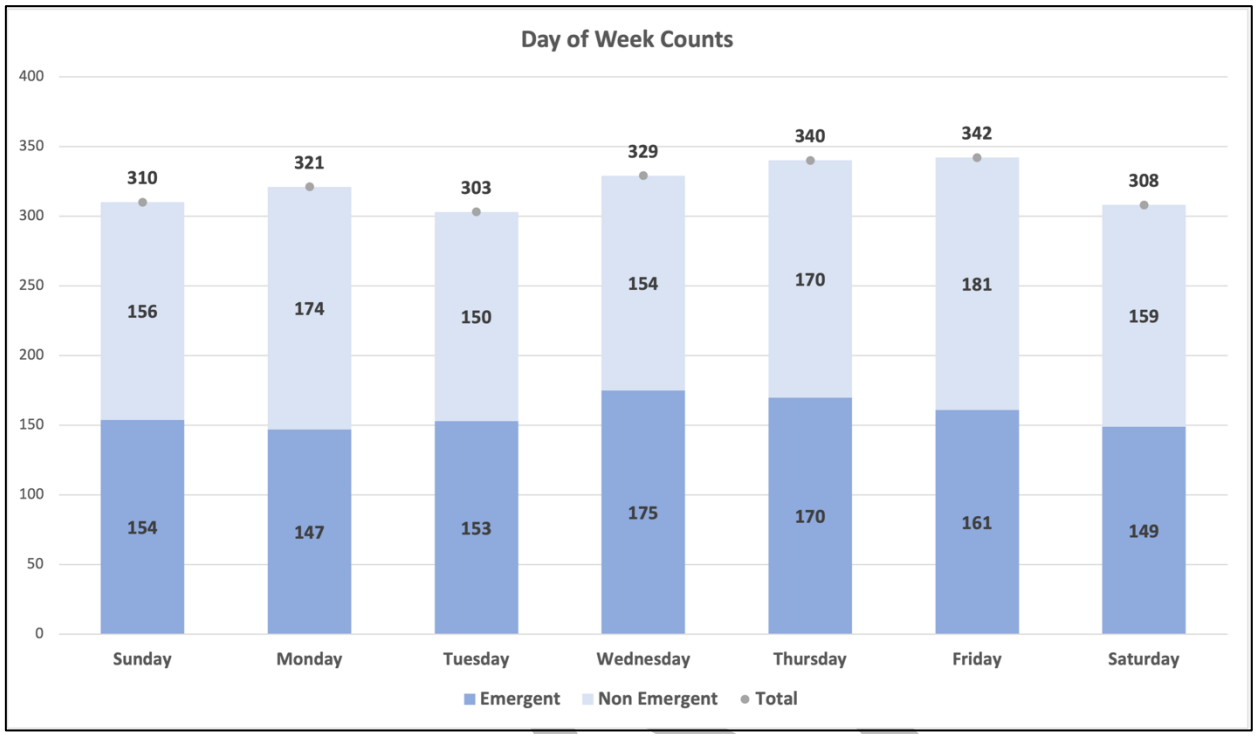


Chart 58 – Kearns Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls as well as the peak volume for all calls in Kearns occurring on Friday.

Kearns – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	813	790	705
BLS Transports	1,173	979	1,050
Scene Release	118	95	309
Public Assistance	10	9	10
EMS Total Calls	2,104	1,864	2,064
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 104 – Kearns EMS Calls

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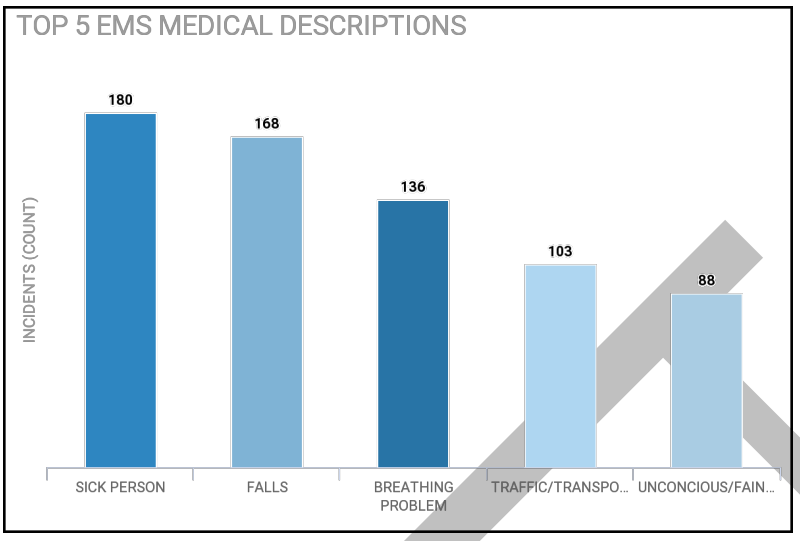


Chart 59 - Top 5 EMS Medical Calls – 2020

Kearns – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	34	41.0%
Natural Vegetation Fire	15	18.1%
Outside Rubbish Fire	18	21.7%
Vehicle Fire	10	12.0%
Special Outside Fire	1	1.2%
Fire, Other	3	3.6%
Mobile Property Fire	2	2.4%
Total	83	100%

Table 105 – Kearns 2020 Incidents by Dispatch Type

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Kearns – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	15	2	7	0	24
Commercial/Industrial	2	1	4	1	8
Educational	0	0	0	0	0
Government	15	0	0	0	15
Healthcare	0	0	0	0	0
Hazardous	Unknown	Unknown	Unknown	Unknown	37*
Storage	1	1	0	0	2
Residential	7,009	2,349	8	0	9,366
Residential – Multi Unit	35	24	1	1	61
High Rise	N/A	N/A	0	0	0
Total	7,077	2,377	20	2	9,513

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

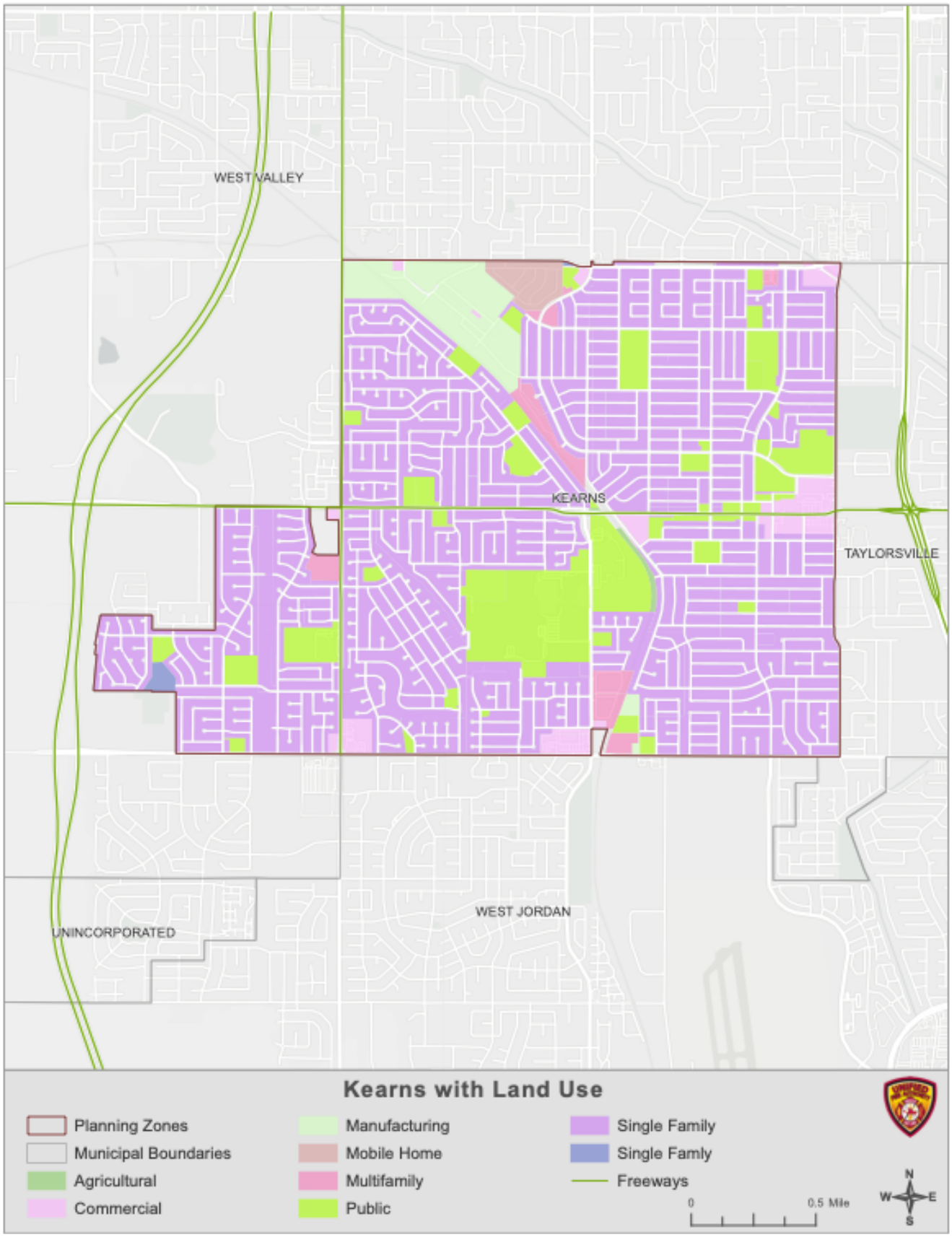
Table 106 – Kearns Building Occupancy and Risk Categories

Building Size / Considerations

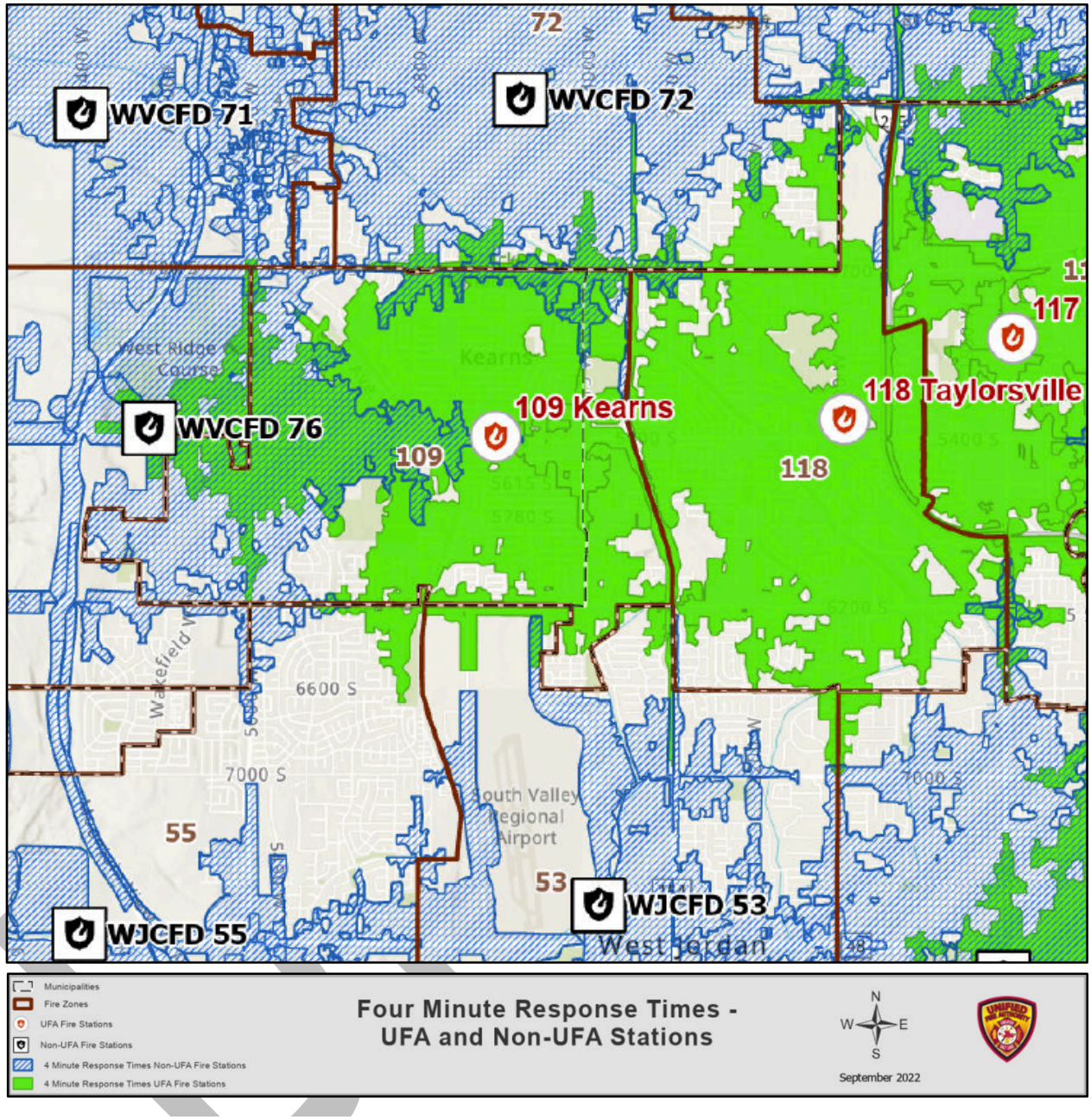
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

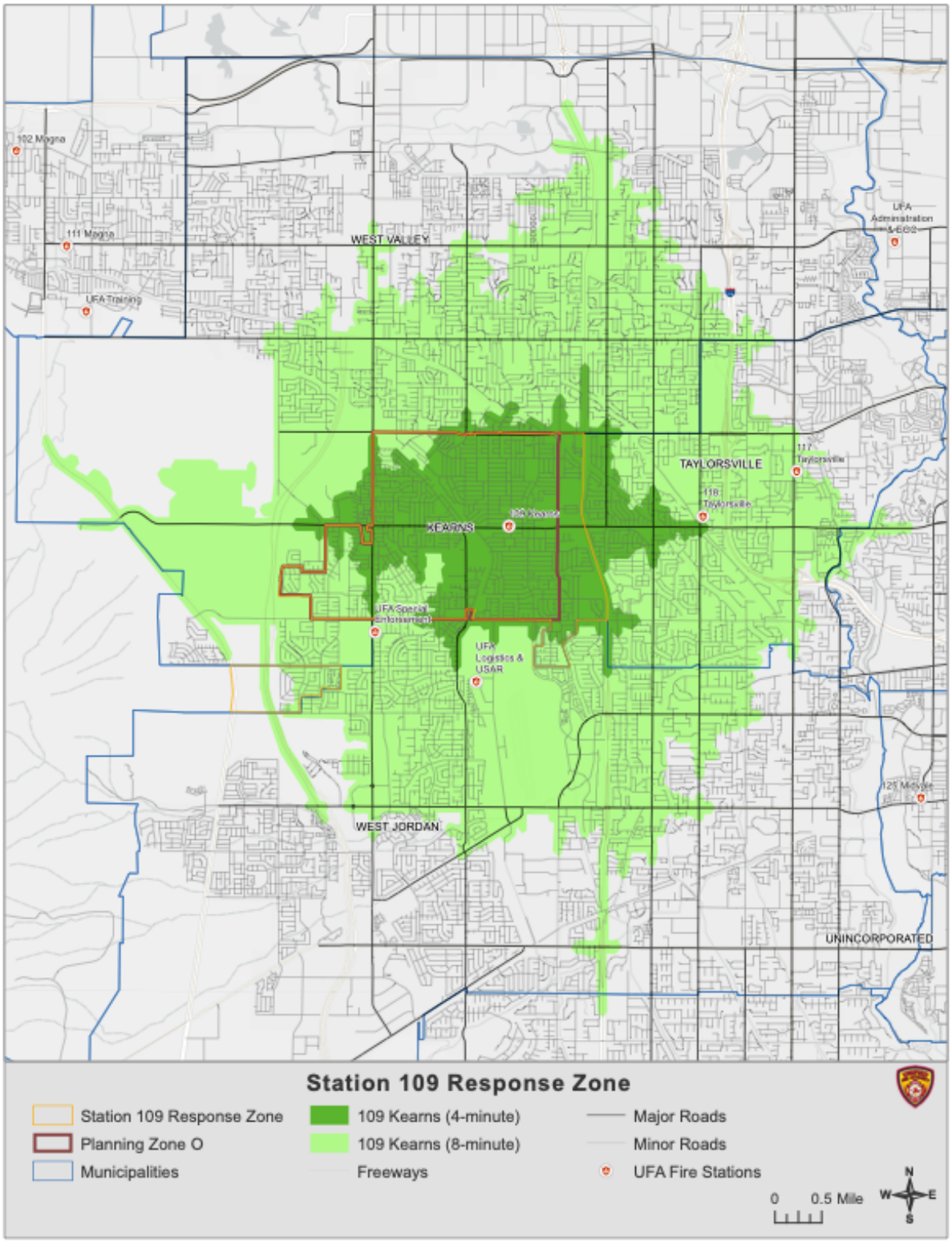
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Map 154 – Kearns with Land Use



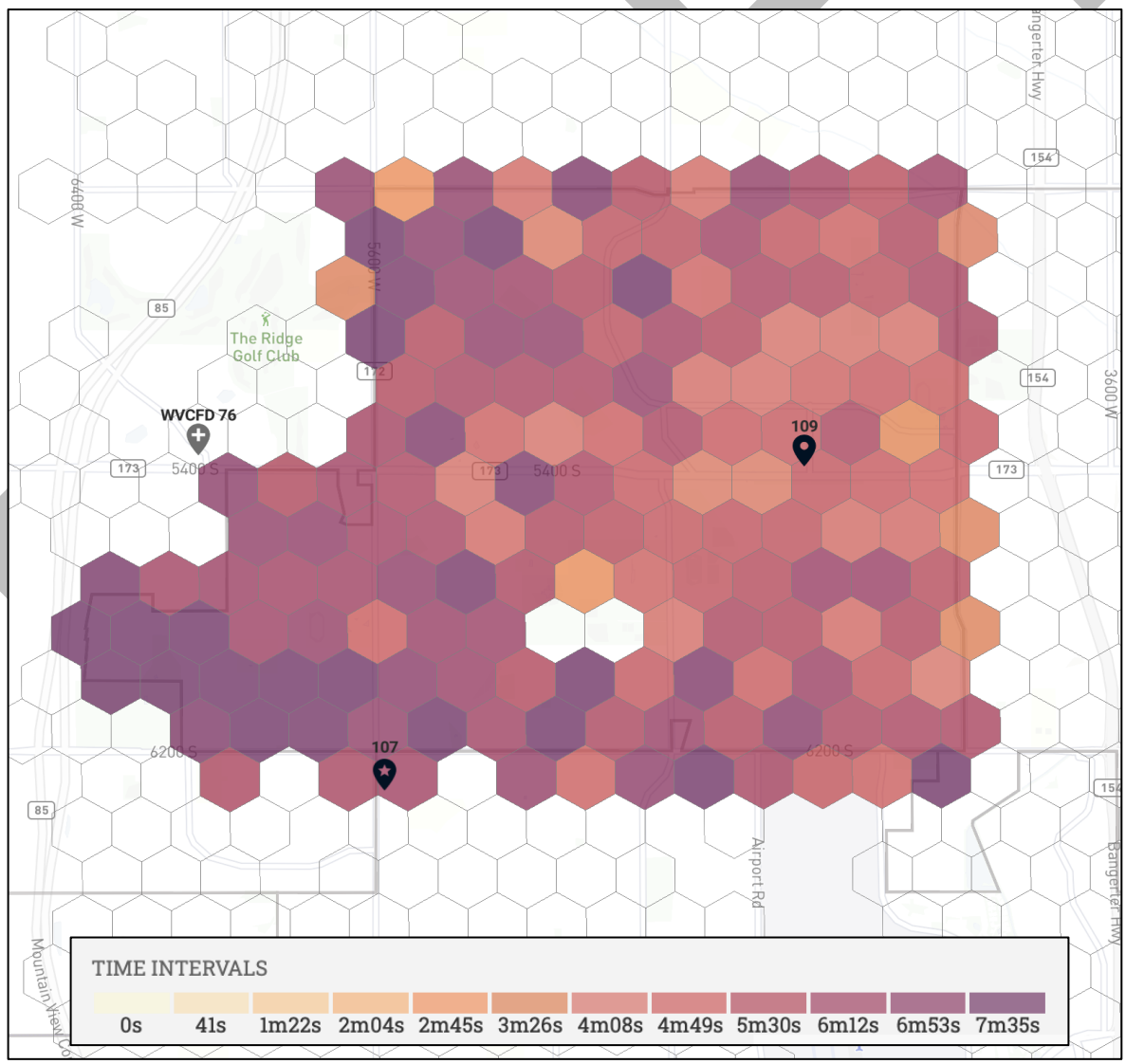
Map 155 - 4-Minute Travel Time, UFA and Aid



Map 156 - Station 109 4- and 8-Minute Travel Times

Kearns – First Arriver Travel Times

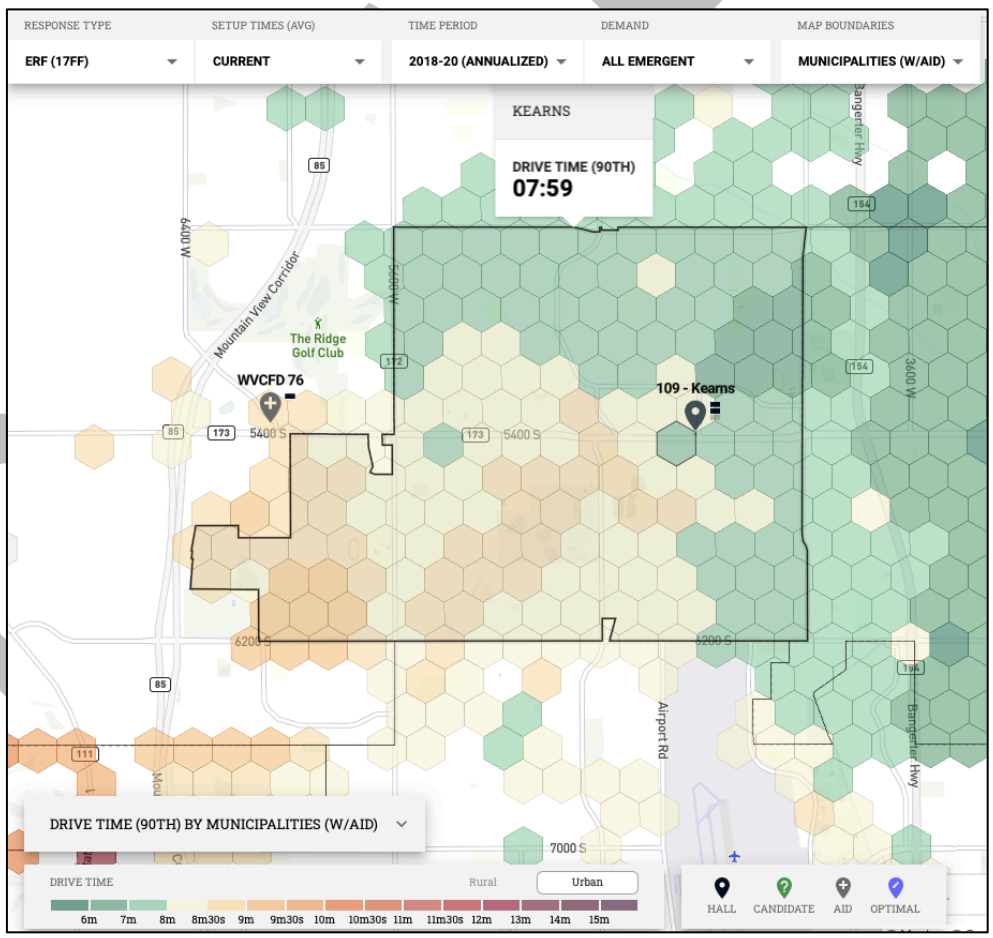
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the lighter colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within Kearns, the 90th percentile drive time is 6:23 for fire and 6:37 for EMS, or a combined 90th percentile drive time of 6:23.



Map 157 – Kearns Response Times – All Aid

Kearns – Residential Fire Effective Response Force (17 FF)

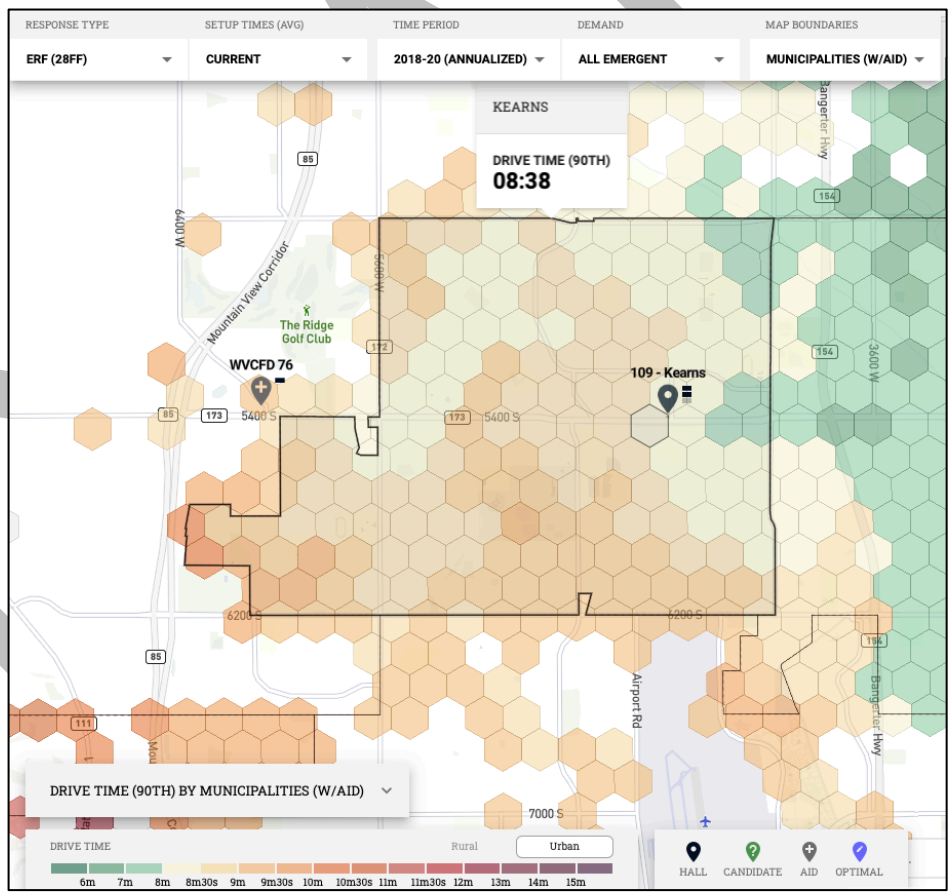
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 7:59.



Map 158 – Kearns Response Times – Residential Fire Effective Response Force (17 ERF)

Kearns – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 08:38.



Map 159 – Kearns Response Times – Commercial Fire Effective Response Force (28 FF)

Kearns Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Mod	Low	Low	Low	Low	Mod	Low	Low	Low	High	Low	Mod

Table 107 – Kearns Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Kearns or directly bordering the city. Bangerter Highway runs directly on the east side of the township and the Mountain View Corridor runs directly on the west side of the township. Several arterials and state roads also run through Kearns, with 4700 South, 5415 South and 6200 S as well as 5600 West. There are 0 linear miles of Interstate/US Highway, 4.42 linear miles of State Highways, and 105 total linear miles of roadway. UTA also runs bus routes through the township, with the main bus routes running on 6200 S, 5400 S and 4700 S. There is a rail line that runs the length of the township from 4700 S to 6200 S near 4800 W. Kearns is in the moderate-risk category for road infrastructure.

Infrastructure – Water

There is one water district within Kearns, the Kearns Improvement District.

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Infrastructure – Dams

There are no identified dams within Kearns. Kearns is in the low-risk category for dam infrastructure.

Natural Hazards

Within Kearns, there are no concerns with avalanche areas. Kearns is in the low-risk category for avalanche. There are no identified fault lines that run through the city, although there are several faults on either side of the city (see Map 8). Kearns is in the low-risk category for liquefaction and low-risk category for fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Kearns, with an estimated 1,024 URM's, which constitutes about 4.17% of the overall URM's within UFA's response areas. Kearns is in the moderate-risk category for unreinforced masonry.

Wildland Urban Interface

There is low risk of urban interface fires within Kearns. Kearns is in the low-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are three identified HazMat/Tier II Sites within Kearns, which is in the low-risk category.

Hospitals

Kearns has no standalone hospitals. This places Kearns in the low-risk category for hospitals.

Schools

Kearns has eleven elementary schools, two middle schools, one high school, one public charter school K-9, and a private K-8 school within city boundaries which places it in the high-risk category.

Target Hazards – Structures

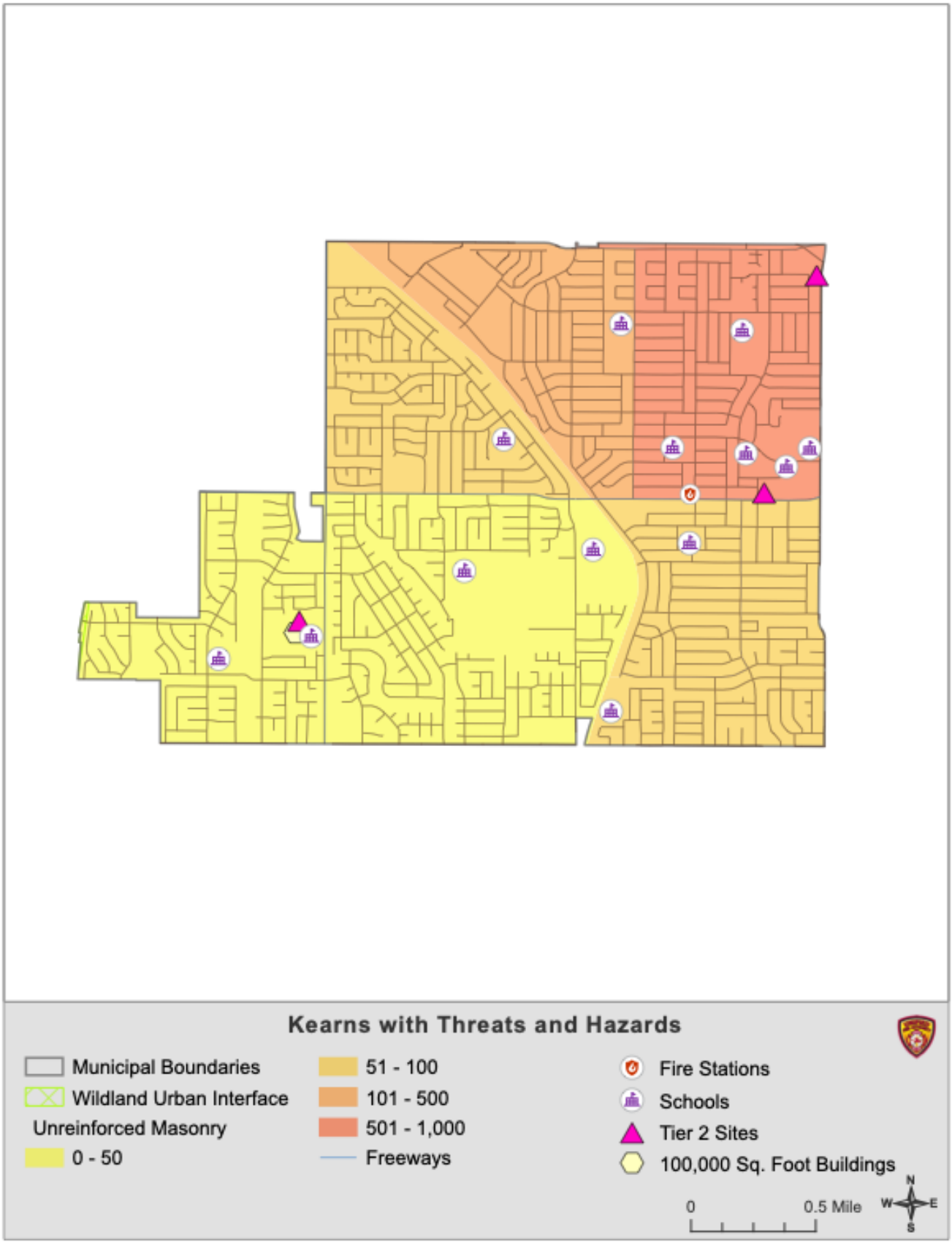
Some of the target-hazard occupancies in Kearns include:

- Apartments – 4866 West 4780 South
- Carrington Apartments – 5959 South 4800 West

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- Children Center – 5242 South 4820 West
- Kearns Oquirrh Park Fitness Center – 5624 S Cougar Lane
- Kearns Warehouse District – 4950 South 5200 West
- Builder Supply – 5367 West 4700 South
- Summit Senior – 5525 West 6200 South
- Salt Lake County Recreation Center – 5600 South 4800 West
- Strip Mall – 5500 South 4015 West
- Utah Olympic Oval – 5662 Cougar Lane

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Map 160 – Kearns with Combined Hazards

Life and Property Loss

From 2015-2020, there have been two fatalities attributed to fire. There has been a total estimate of $1,756,823.00 of property loss and a total estimate of $473,681.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water, standing water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Magna Metro Township

Community Risk Assessment



MAGNA
METRO TOWNSHIP

UNIFIED
FIRE AUTHORITY
GREATER
SALT LAKE

Magna Metro Township Planning Zone

UFA has two stations within the Magna Metro Township Planning Zone covering a total of 37.48 square miles with a population of 29,251 and responded to 2,182 calls for service in 2020. Although Magna currently has an area of 37.48 square miles, much of that includes the Great Salt Lake and uninhabitable area. Because of this, there is roughly 15 miles of habitable area, which places the population density into the urban classification although with all area calculated it would be rural. For planning purposes, UFA will base the population per square mile off of the habitable area in Magna and utilize the urban classification for Magna.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Magna	29,251	6.49%	37.48	780	Rural
Magna – Habitable	29,251	6.49%	15.0	1,950	Urban

Magna has increased its population from 26,459 in 2010 to 29,251 in 2020, showing an increase of 9.54% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 59 demonstrates that Magna could possibly grow to 34,445 by the year 2040.

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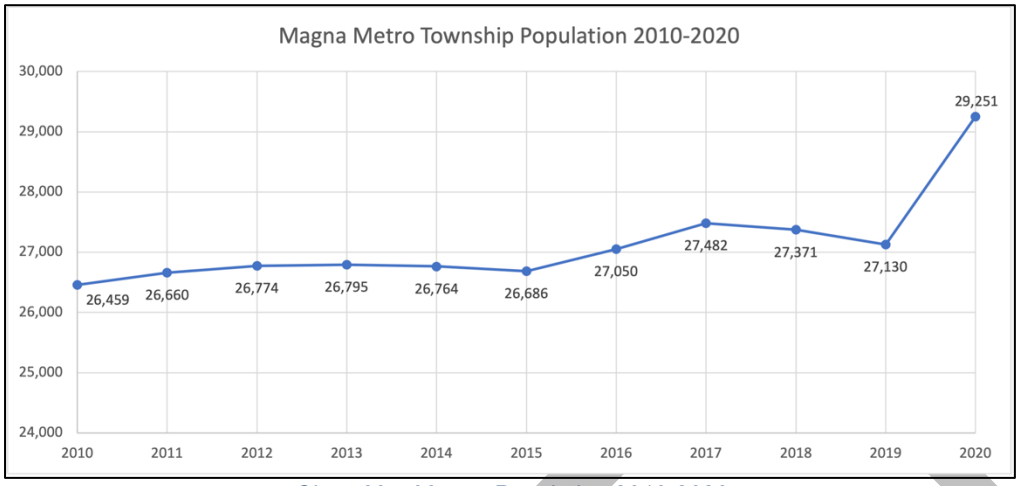


Chart 60 – Magna Population 2010-2020

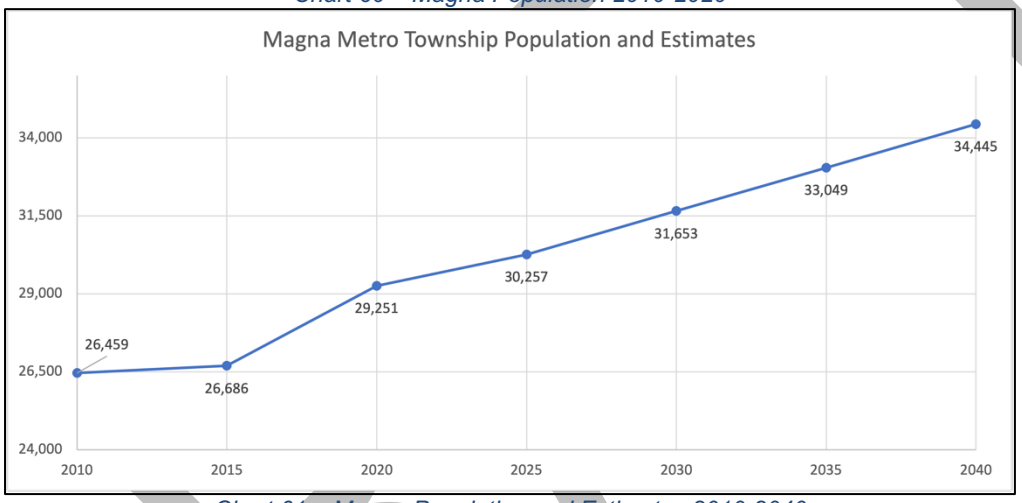


Chart 61 – Magna Population and Estimates 2010-2040

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Magna Station Information

Station 102 information:

- Owner – UFSA
- Opened – 1979 (Currently being rebuilt)
- Address – 8609 West Magna Main Street
- Staffing and Apparatus –
  - Type 1, ME 102 (4 persons)
  - Type 6 Brush Truck (cross-staffed)



Image 16 – Magna Station 102

Station 111 information:

- Owner – UFSA
- Opened – 2011
- Address – 8215 West 3500 South
- Staffing and Apparatus –
  - Type 1, ML 111 (4 persons)
  - Type 6, Brush Truck (cross-staffed)
  - Type 1, Tactical Water Tender (WTT) (cross-staffed)
  - MA 111, (2 persons)



Image 17 - Magna Station 111

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Magna are:

- UFA Station 109 (Kearns), with a four-person medic ladder and a two-person medic ambulance

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- West Valley Station 71, with a three-person medic engine and a two-person medic ambulance
- West Valley Station 72, with a three-person engine and a two-person medic ambulance
- West Valley Station 74, with a three-person ladder and a two-person medic ambulance
- West Valley Station 76, with a three-person engine

Magna – Incidents by Dispatch Type

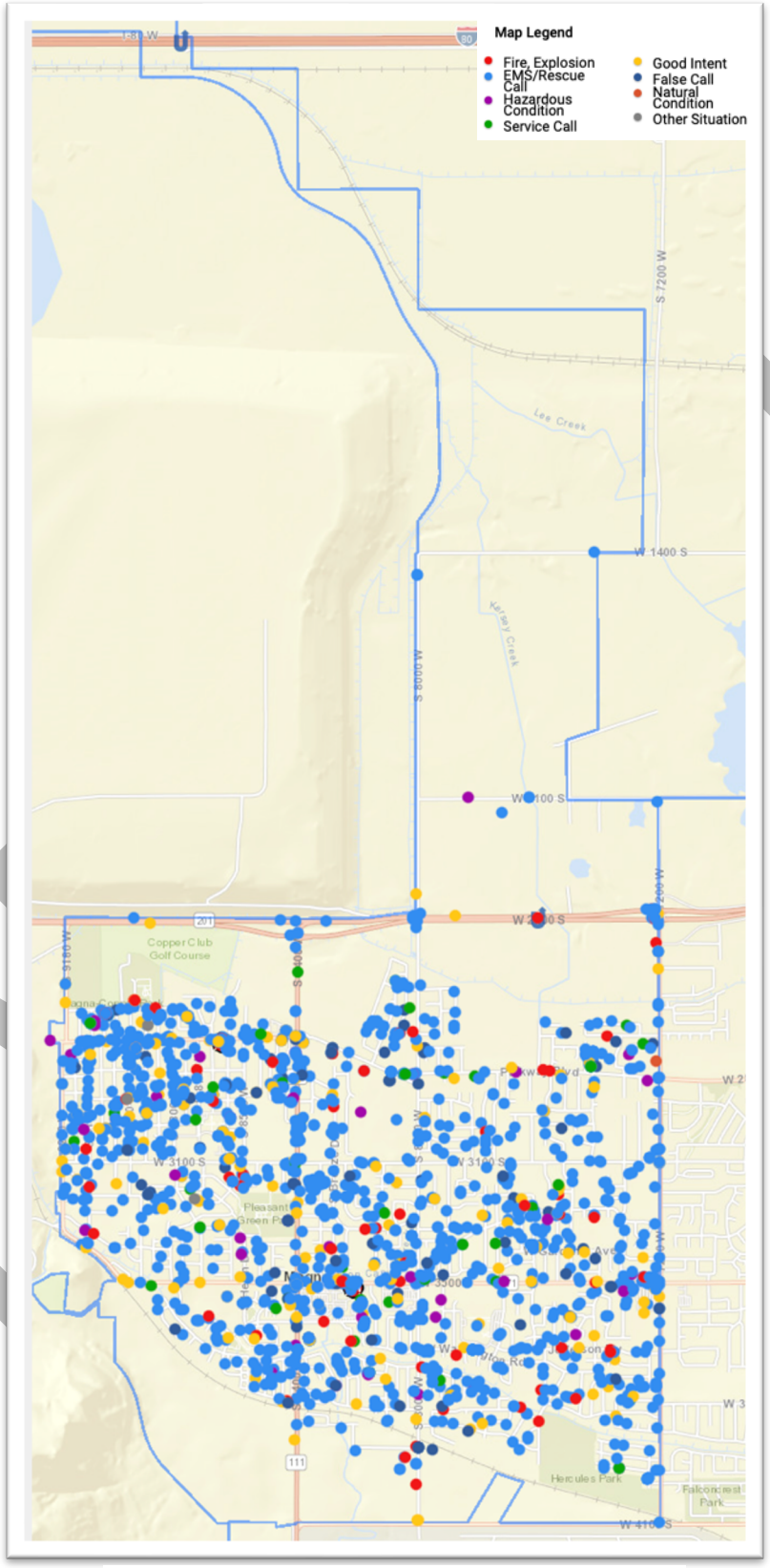
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	65	49	58
EMS	1,418	1,381	1,398
Hazardous Materials	41	53	39
Service Calls	50	88	84
Good Intent	338	230	172
False Calls	83	112	84
Other (Misc., Flood, Overpressure)	5	6	5
Total	2,000	1,919	1,840
Cancelled	182	120	115
Overall Total	2,182	2,039	1,955

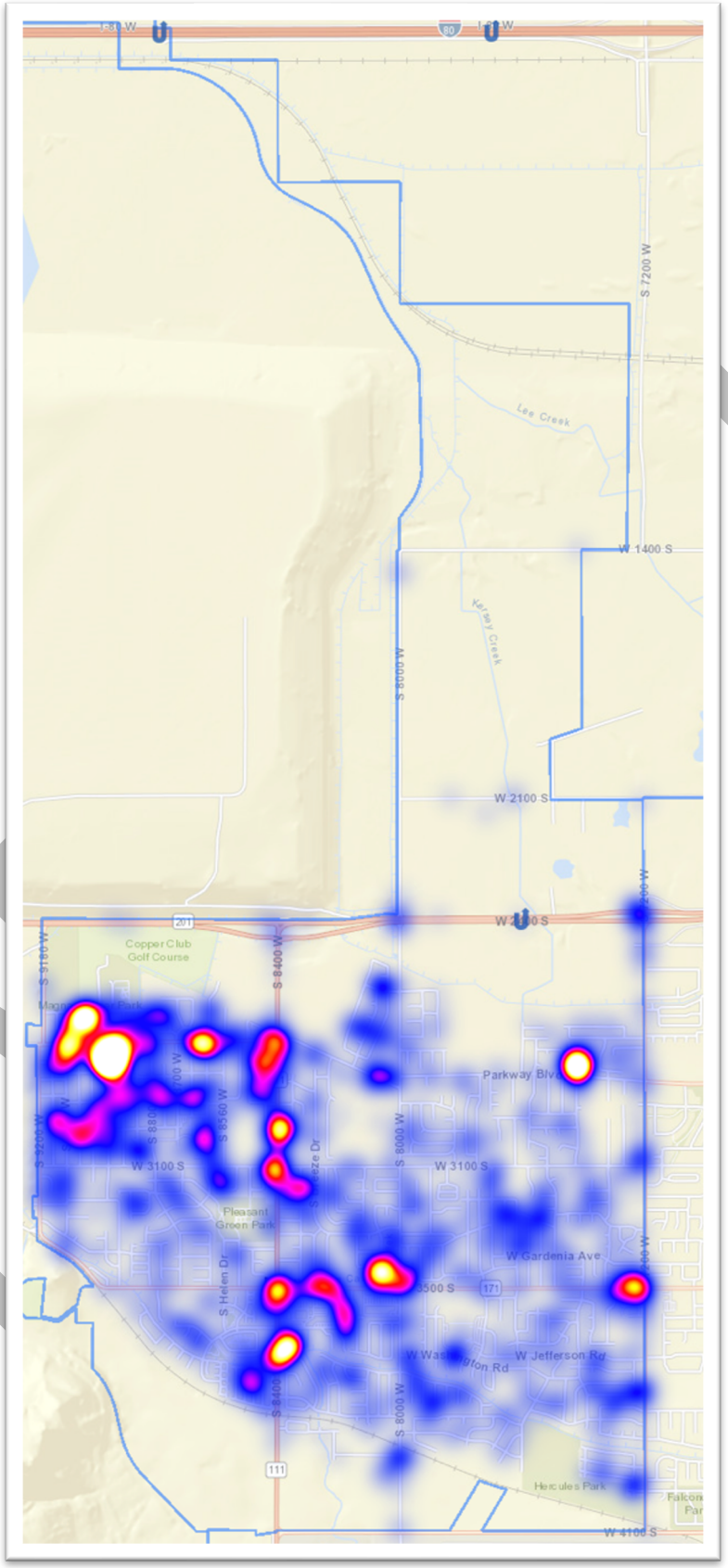
Table 108 – Magna Call Type

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Magna – 2020 Incidents and Heat Map



Map 161 – Magna Incident Calls by Type



Map 162 – Magna Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

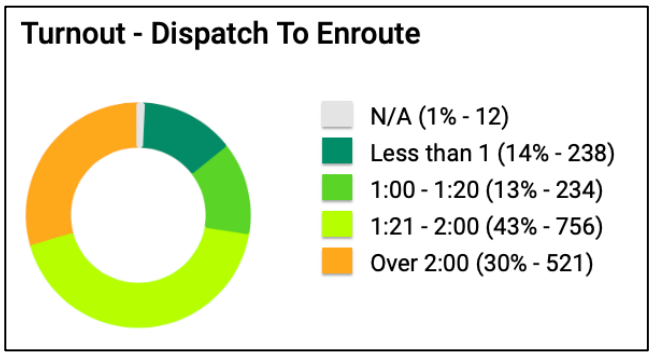
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

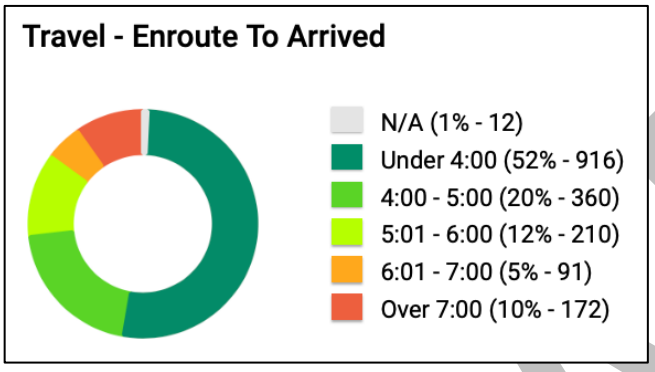
– Of Note…

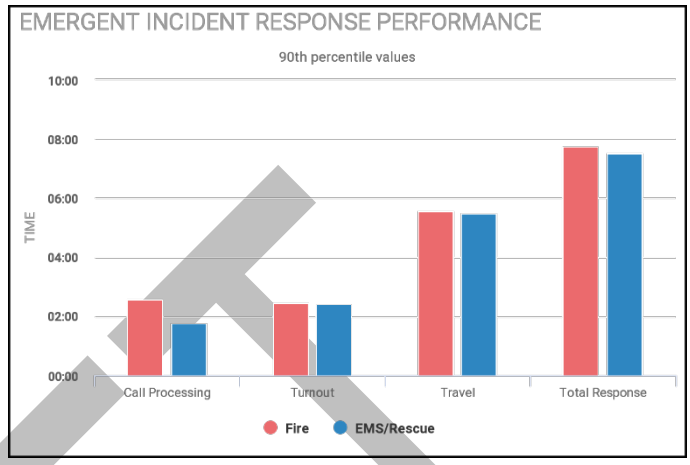
NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

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Magna – 2020 Dispatch and Response Times





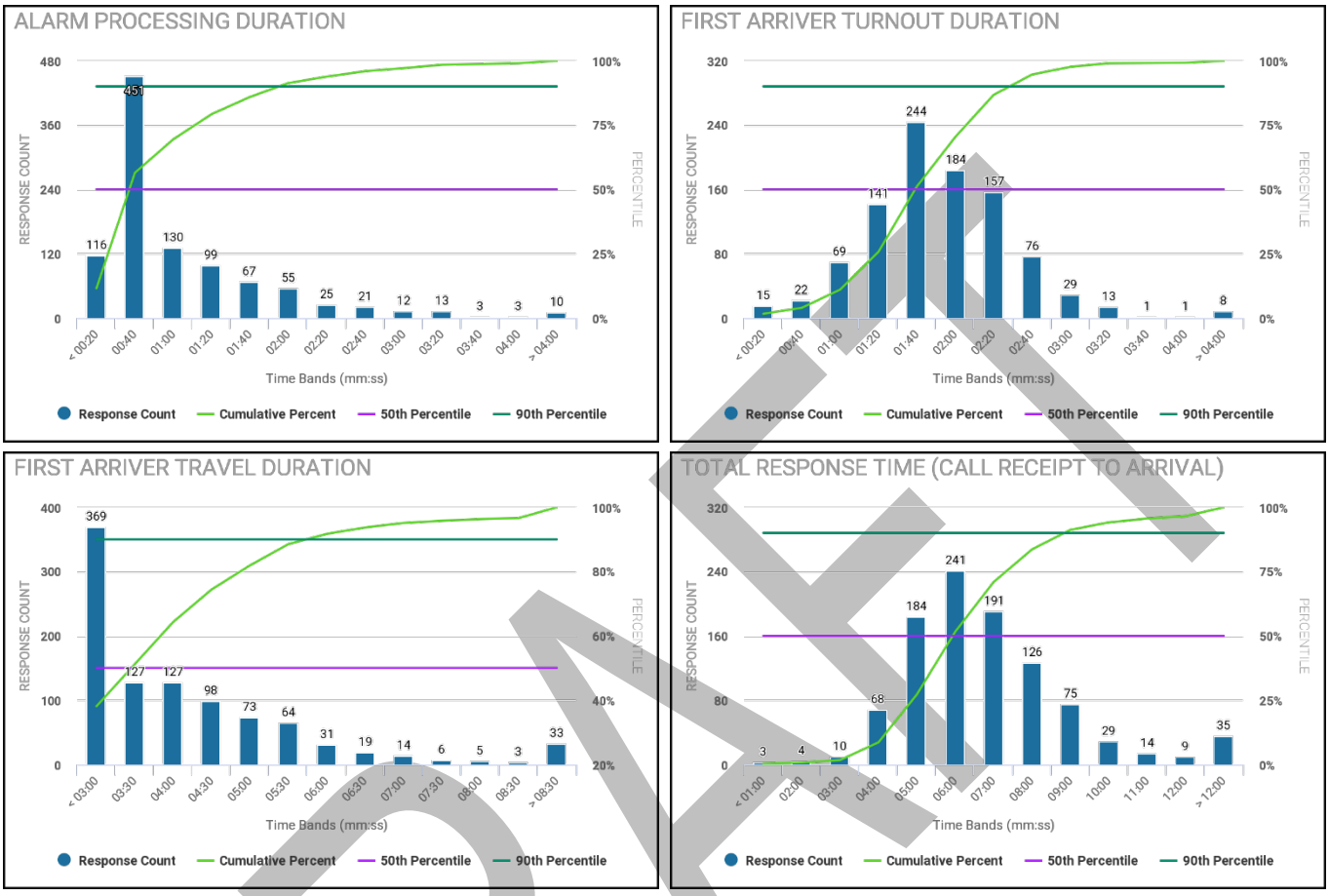


Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Magna	2:07	2:26	6:27	10:00	1:46	2:25	5:30	8:31
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 109 – Magna 2020 Emergent Response Times, 90th percentile values

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Magna – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Magna (90th percentile). The alarm processing for fire was 2:07 and 1:46 for EMS; turnout time was 2:26 for fire responses and 2:25 for EMS responses; travel time was 6:27 for fire responses and 5:30 for EMS. The 90th percentile total response time was 10:00 for fire and 8:31 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Magna – 2020 Incidents by Time of Day

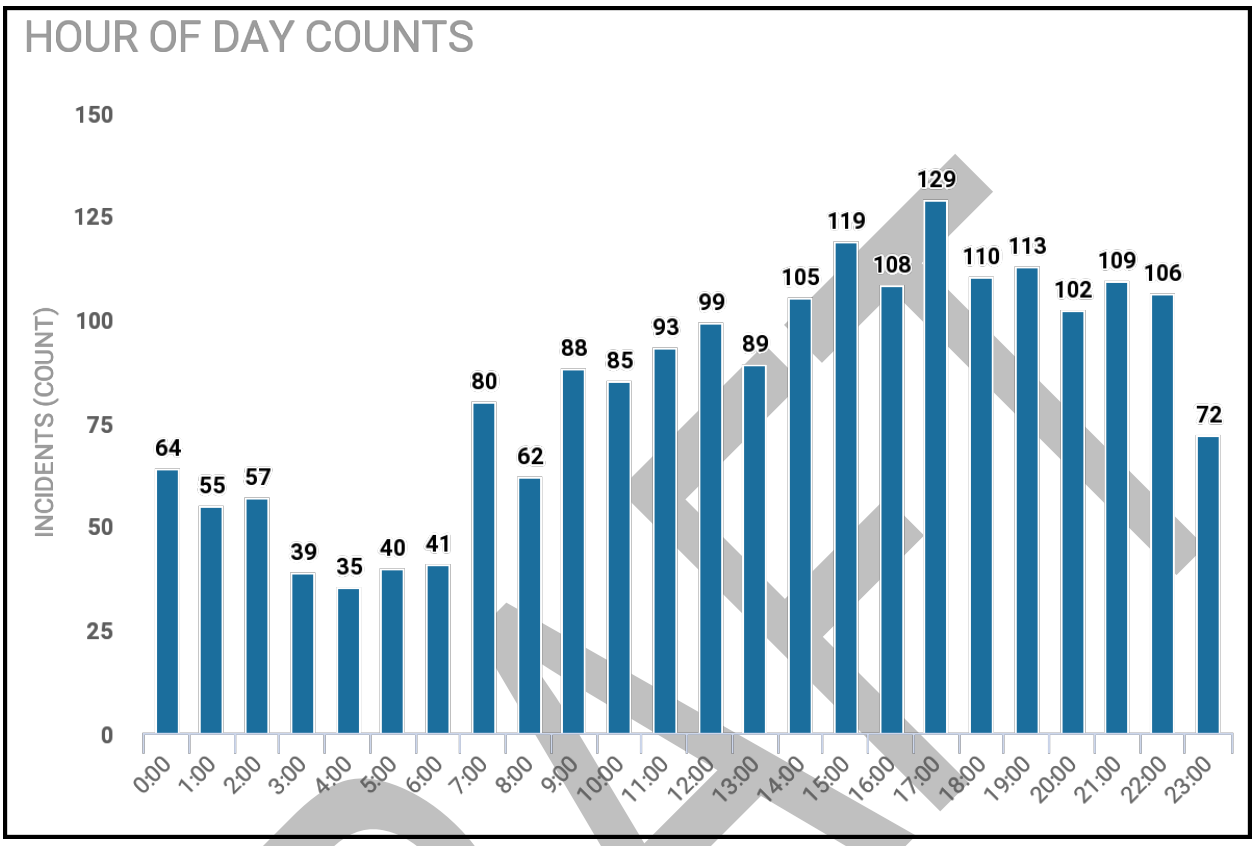


Chart 62 – Magna 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Magna for all service calls. This chart illustrates that the greatest demand for service delivery begins to increase at 07:00 AM and starts to decrease at 05:00 PM.

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Magna – 2020 Incidents by Day of Week

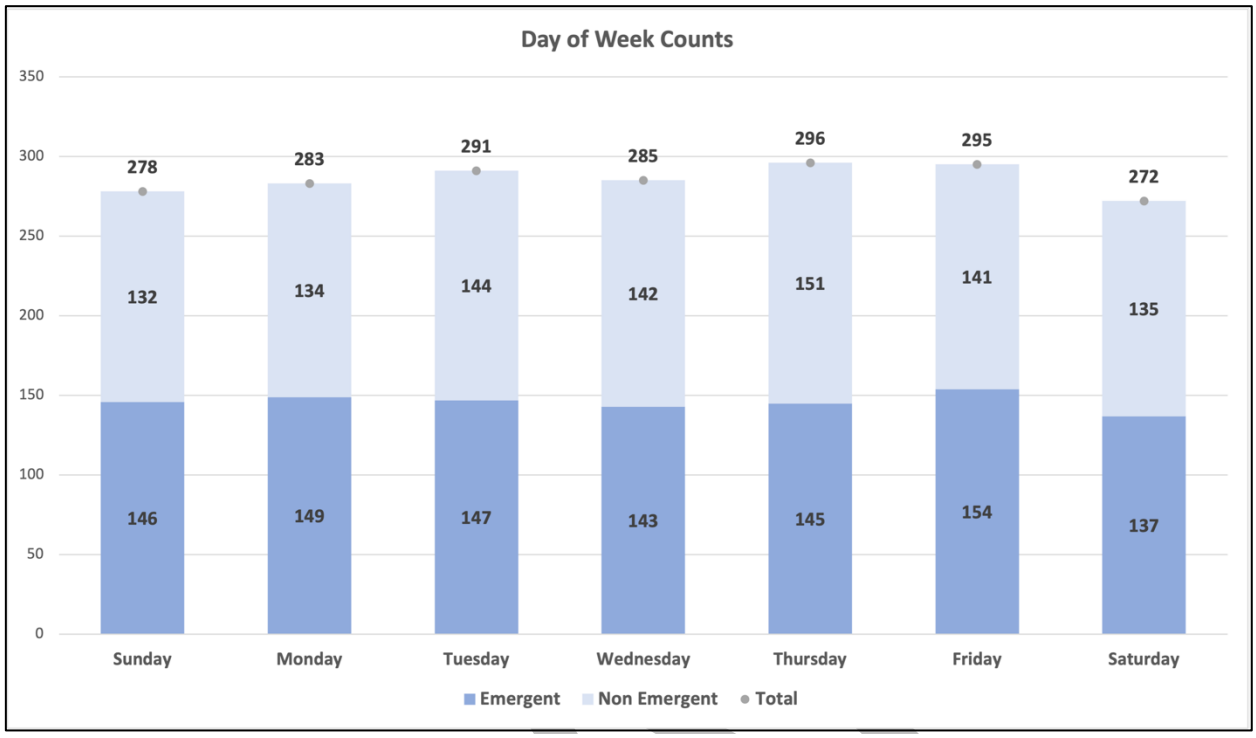


Chart 63 – Magna Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls as well as the peak volume for all calls in Magna occurring on Thursday.

Magna – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	517	512	530
BLS Transports	883	848	820
Scene Release	79	105	357
Public Assistance	6	5	10
EMS Total Calls	1,479	1,465	1,707
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 110 – Magna EMS Calls

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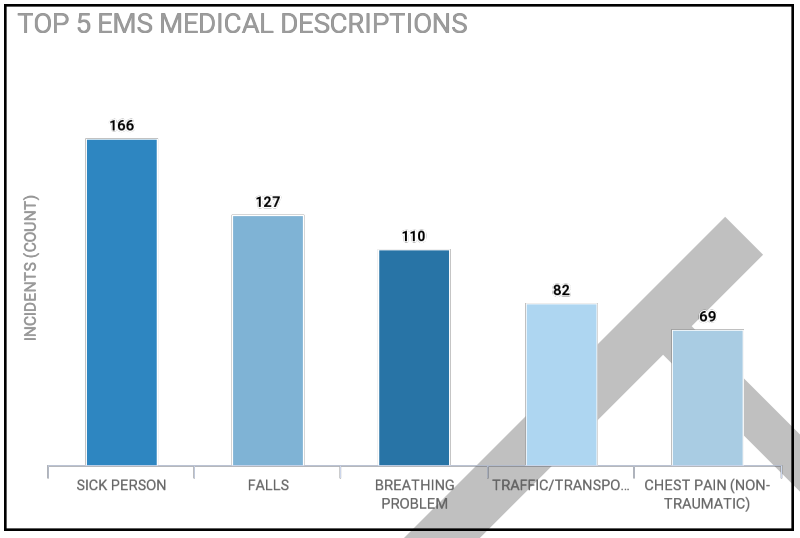


Chart 64 - Top 5 EMS Medical Calls – 2020

Magna – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	34	44.7%
Natural Vegetation Fire	15	19.7%
Outside Rubbish Fire	11	14.5%
Vehicle Fire	10	13.2%
Special Outside Fire	6	7.9%
Fire, Other	0	0%
Mobile Property Fire	0	0%
Total	76	100%

Table 111 – Magna 2020 Incidents by Dispatch Type

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Magna – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	8	3	5	0	16
Commercial/Industrial	7	0	6	0	13
Educational	0	0	5	1	6
Government	2	0	1	0	3
Healthcare	0	1	1	0	2
Hazardous	Unknown	Unknown	Unknown	Unknown	48*
Storage	0	0	0	0	0
Residential	4,180	2,453	57	0	6,690
Residential – Multi Unit	96	49	3	2	150
High Rise	N/A	N/A	0	0	0
Total	4,293	2,506	78	3	6,928

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

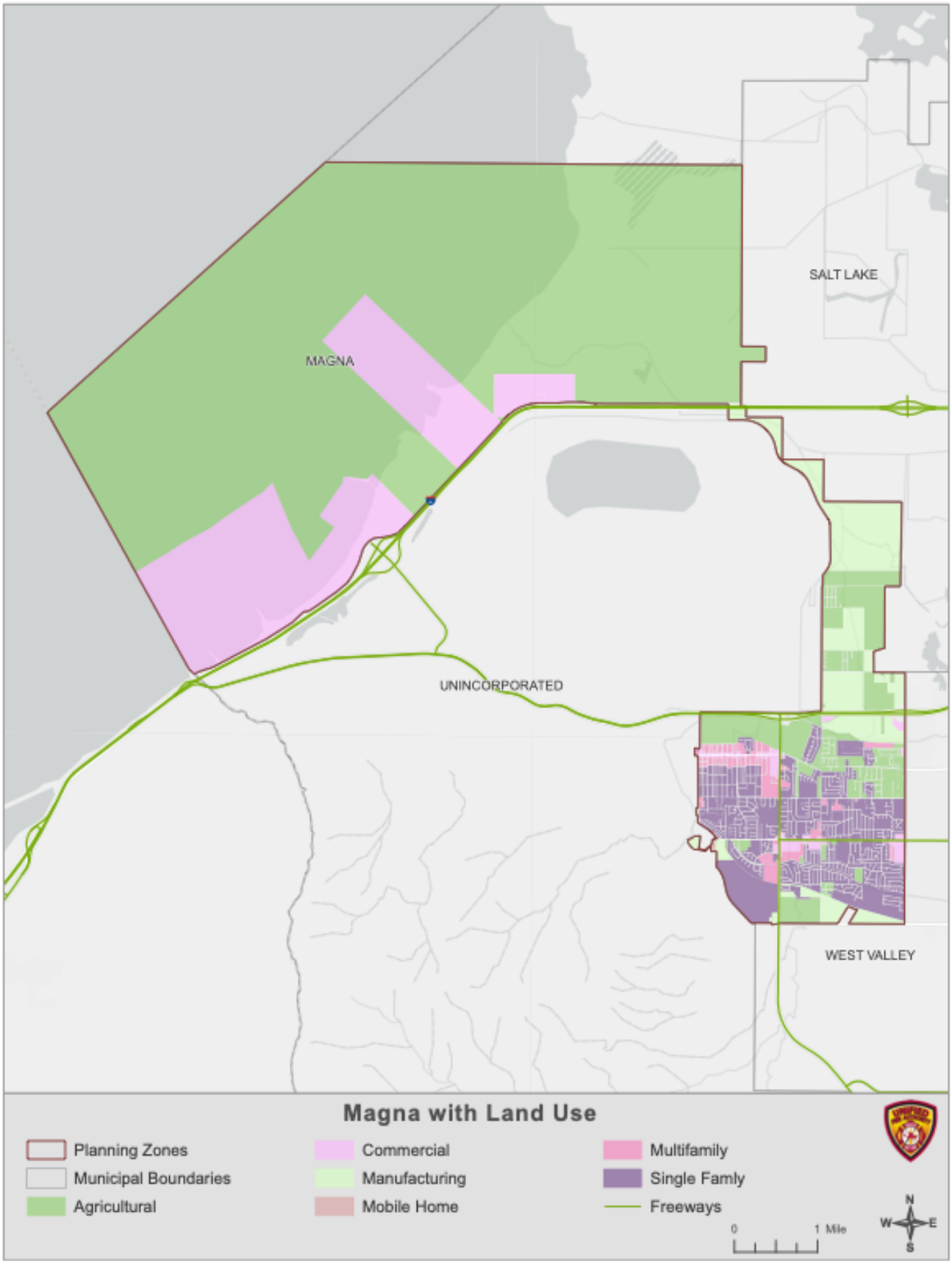
Table 112 – Magna Building Occupancy and Risk Categories

Building Size / Considerations

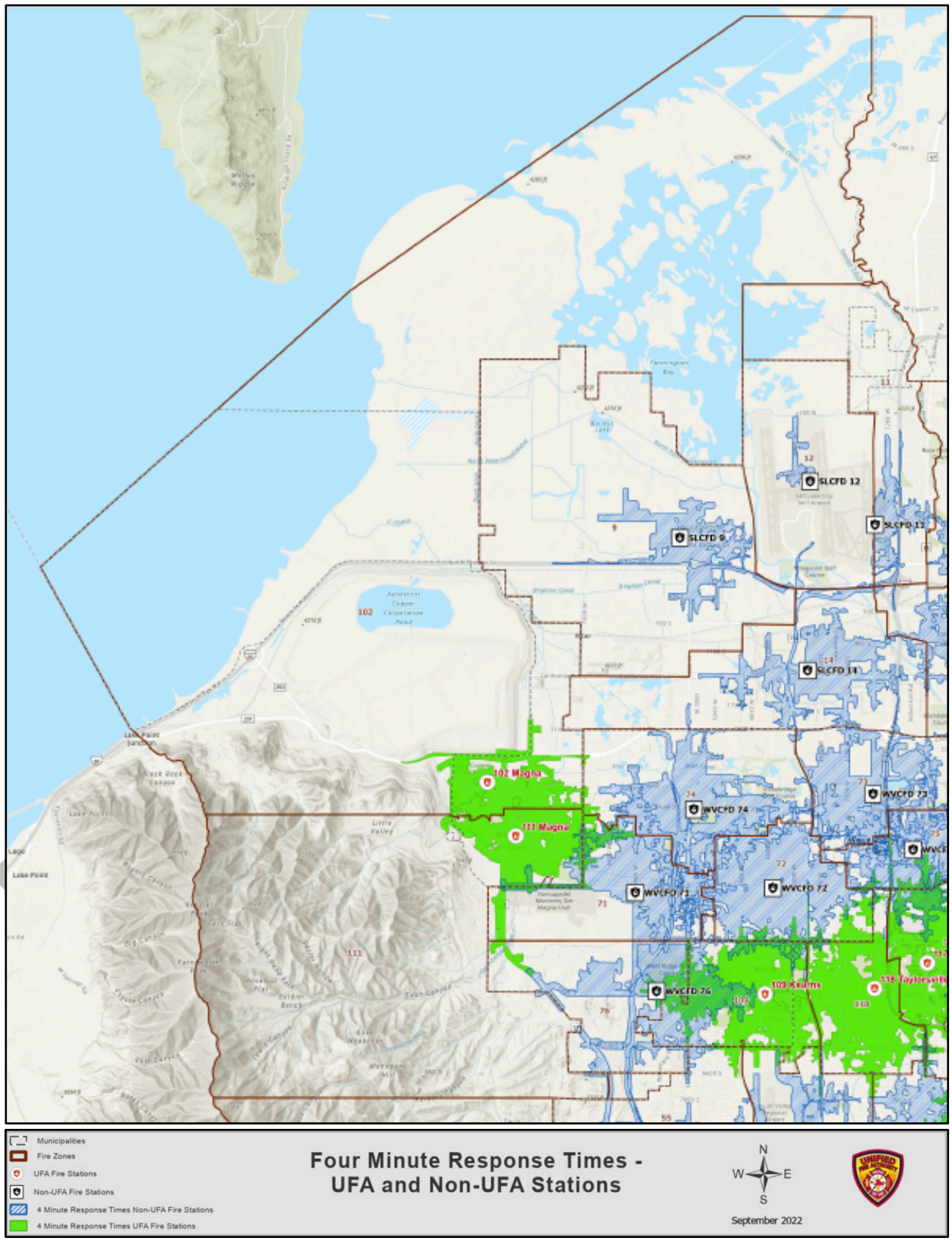
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

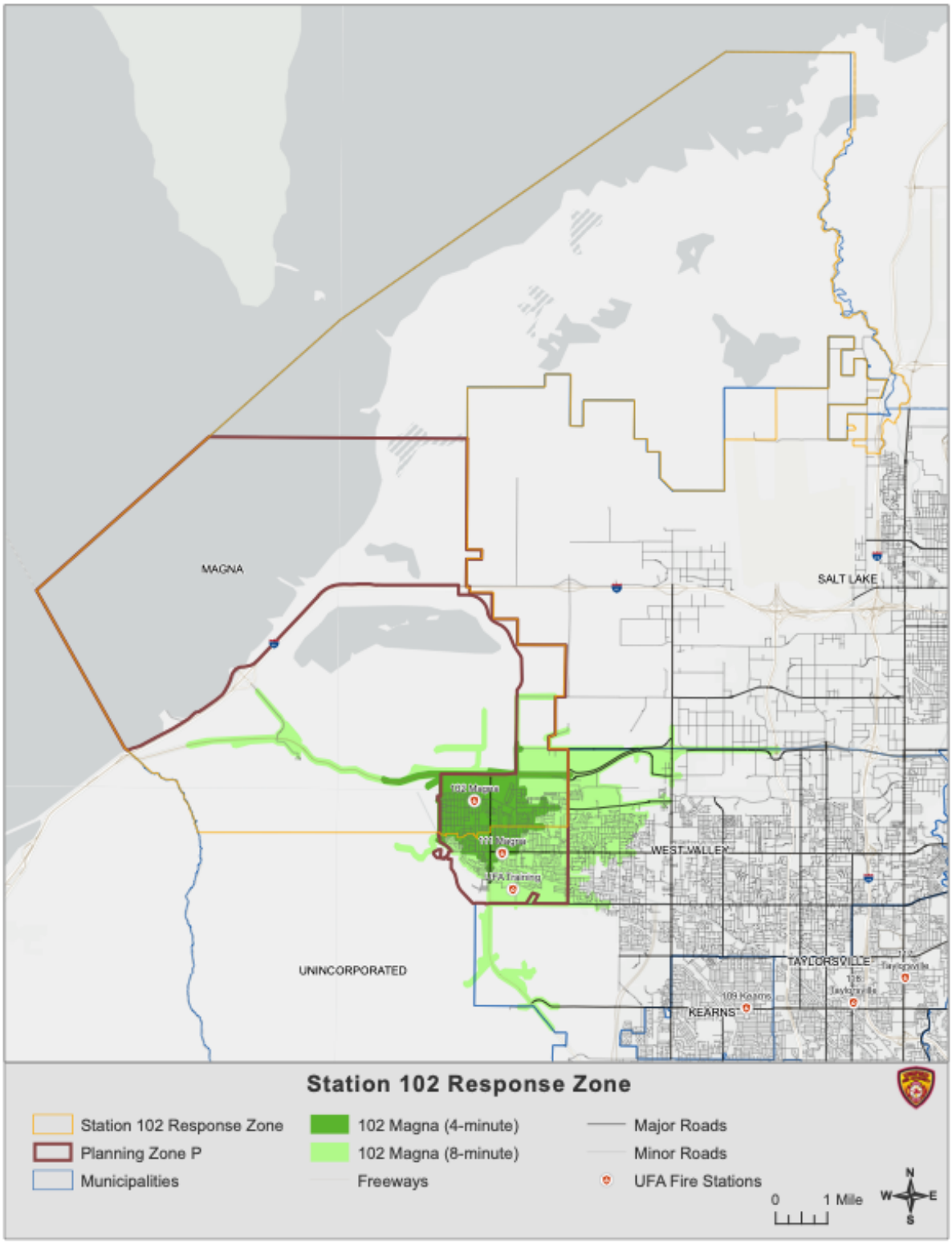
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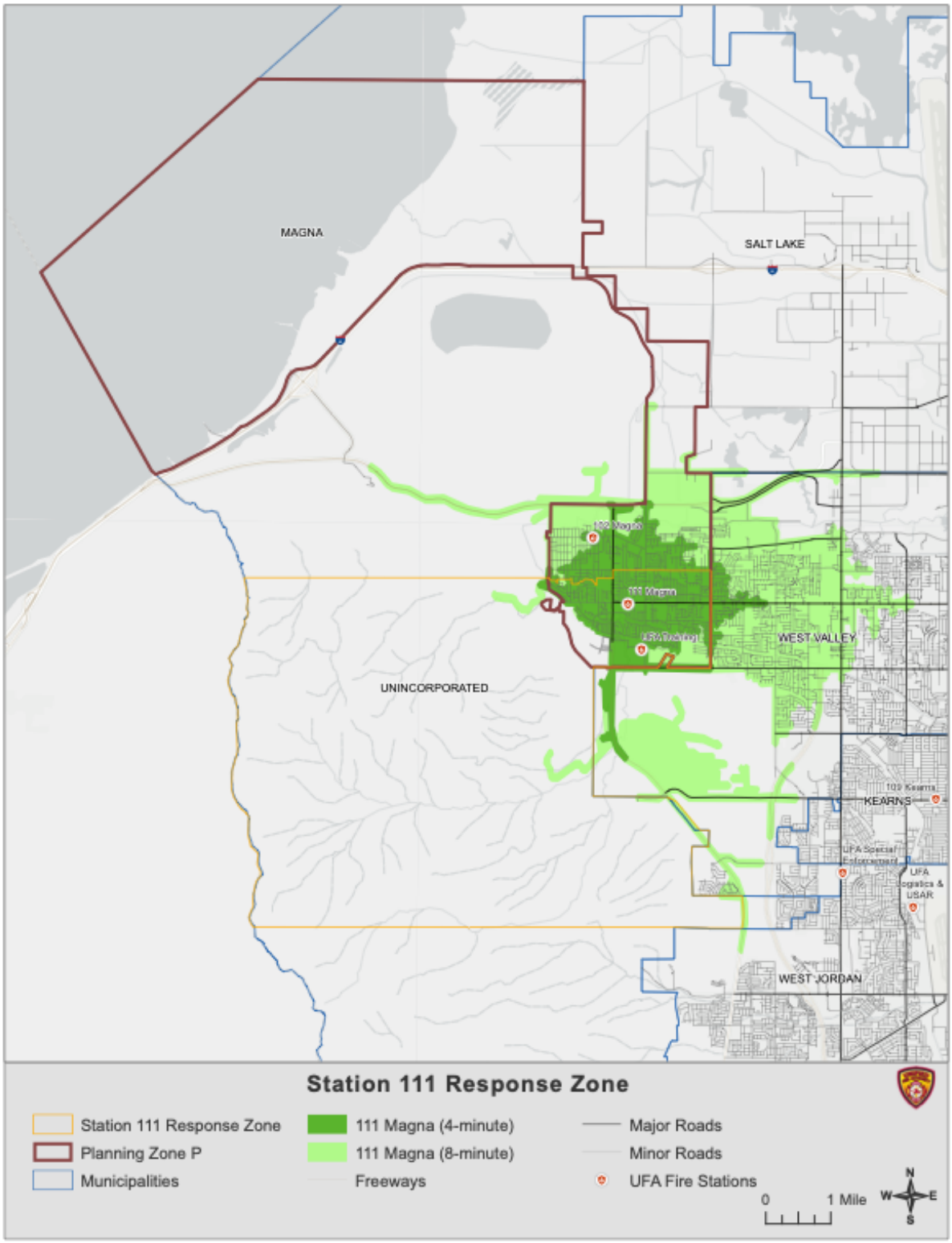
Map 163 – Magna with Land Use



Map 164 - 4-Minute Travel Time, UFA and Aid



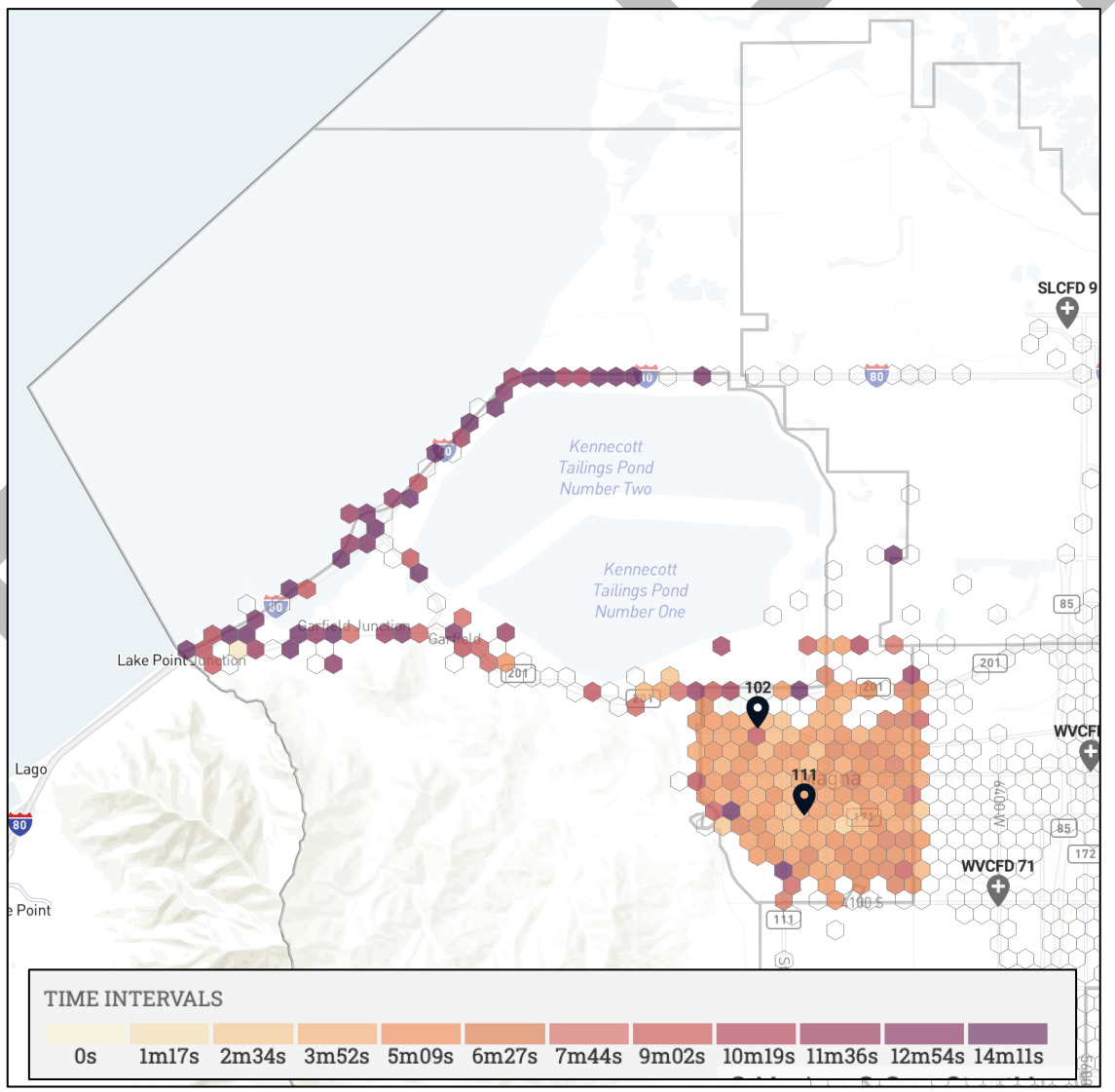
Map 165 - Station 102 4- and 8-Minute Travel Times



Map 166 - Station 111 4- and 8-Minute Travel Times

Magna – First Arriver Travel Times

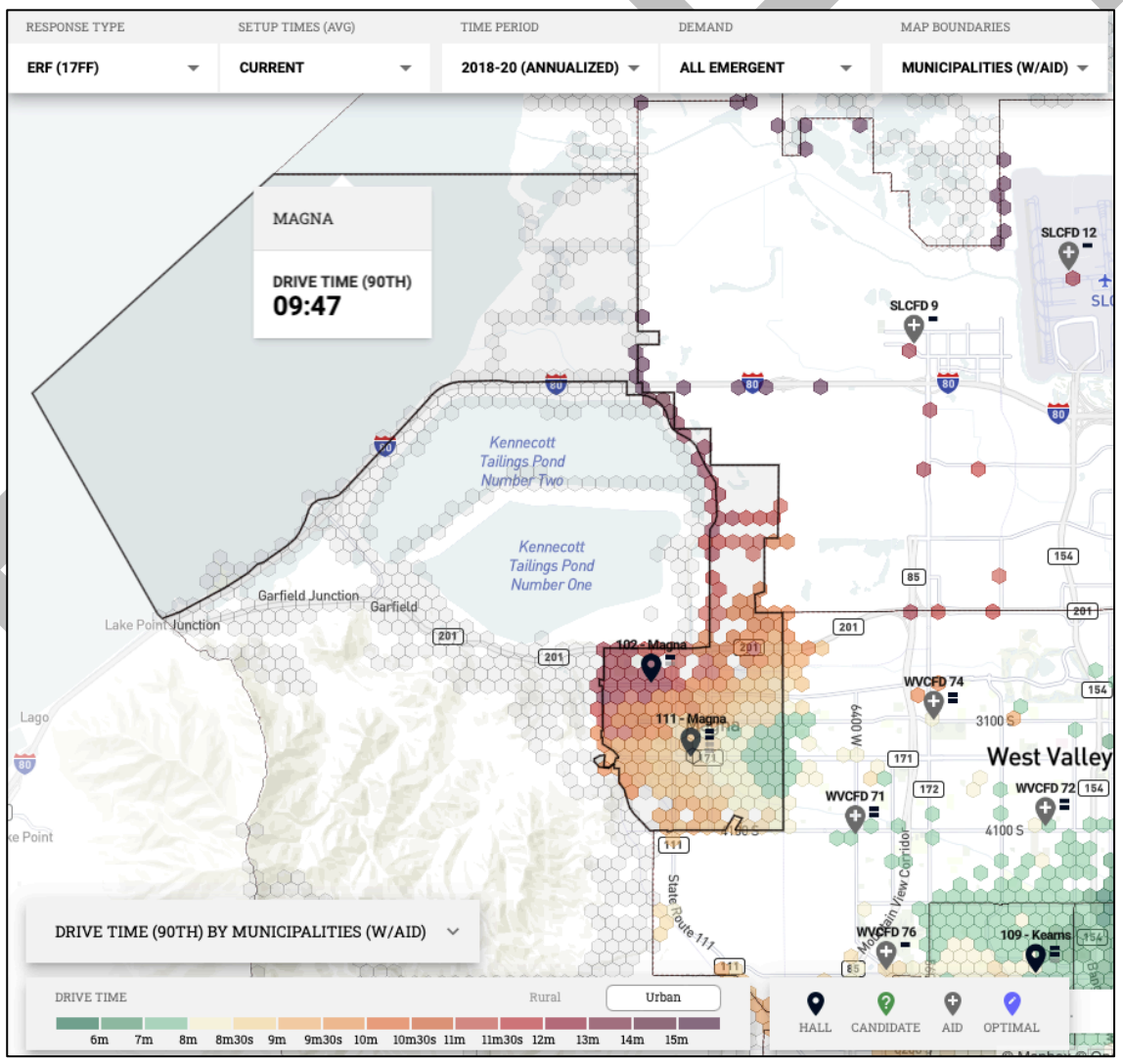
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently within Magna, the 90th percentile drive time is 6:27 for fire and 5:30 for EMS.



Map 167 – Magna Response Times – All Aid

Magna – Residential Fire Effective Response Force (17 FF)

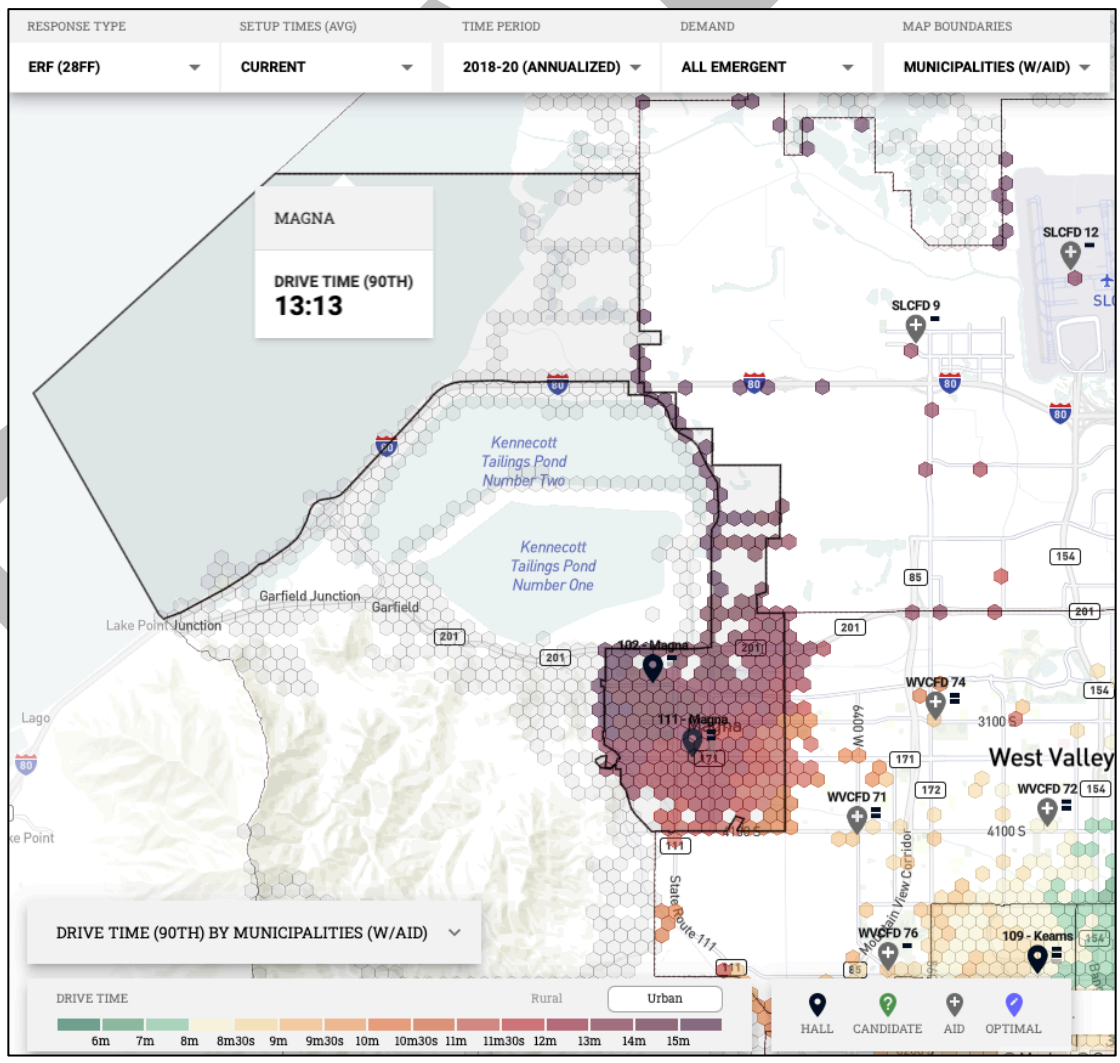
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 9:47.



Map 168 – Magna Response Times – Residential Fire Effective Response Force (17 ERF)

Magna – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 13:13.



Map 169 – Magna Response Times – Commercial Fire Effective Response Force (28 FF)

Magna Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Mod	High	High	High	Low	Mod	High	Low	Low	Mod	Mod	Mod

Table 113 – Kearns Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Magna or directly bordering the city. SR201 runs directly on the west side of the city and I-80 runs on the north side of the city. Several arterials and other state roads also run through Magna, with U-111, 3500 South, and 4100 South. There are 12.7 linear miles of Interstate/US Highway, 9.4 linear miles of State Highways, and 123 total linear miles of roadway. UTA also runs bus routes through the city, with the main bus route running on 3500 South. Magna is in the moderate-risk category for road infrastructure.

Infrastructure – Water

There is one water district within Magna, the Magna Water Improvement District.

Infrastructure – Dams

There are nine identified dams within Magna. Magna is in the high-risk category for dam infrastructure.

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Natural Hazards

Within Magna, there are no concerns with avalanche areas. Magna is in the low-risk category for avalanche. There are several identified fault lines that run through the city (see Map 8), and on March 18, 2020 there was a 5.7 magnitude earthquake that's epicenter was in Magna. Magna is in the high-risk category for liquefaction and high-risk category for fault lines, with an estimated 64,921 linear miles of fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Magna, with an estimated 1,138 URM's, which constitutes about 4.63% of the overall URM's within UFA's response areas. Magna is in the moderate-risk category for unreinforced masonry.

Wildland Urban Interface

There is high risk of urban interface fires within Magna and also directly to the north and west of the city in the Unincorporated areas. Magna is in the high-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are two identified HazMat/Tier II Sites within Magna, which is in the low-risk category.

Hospitals

Magna has no standalone hospitals. This places Magna in the low-risk category for hospitals.

Schools

Magna has six elementary schools, two middle schools, and one high schools within city boundaries which places it in the moderate-risk category.

Target Hazards – Structures

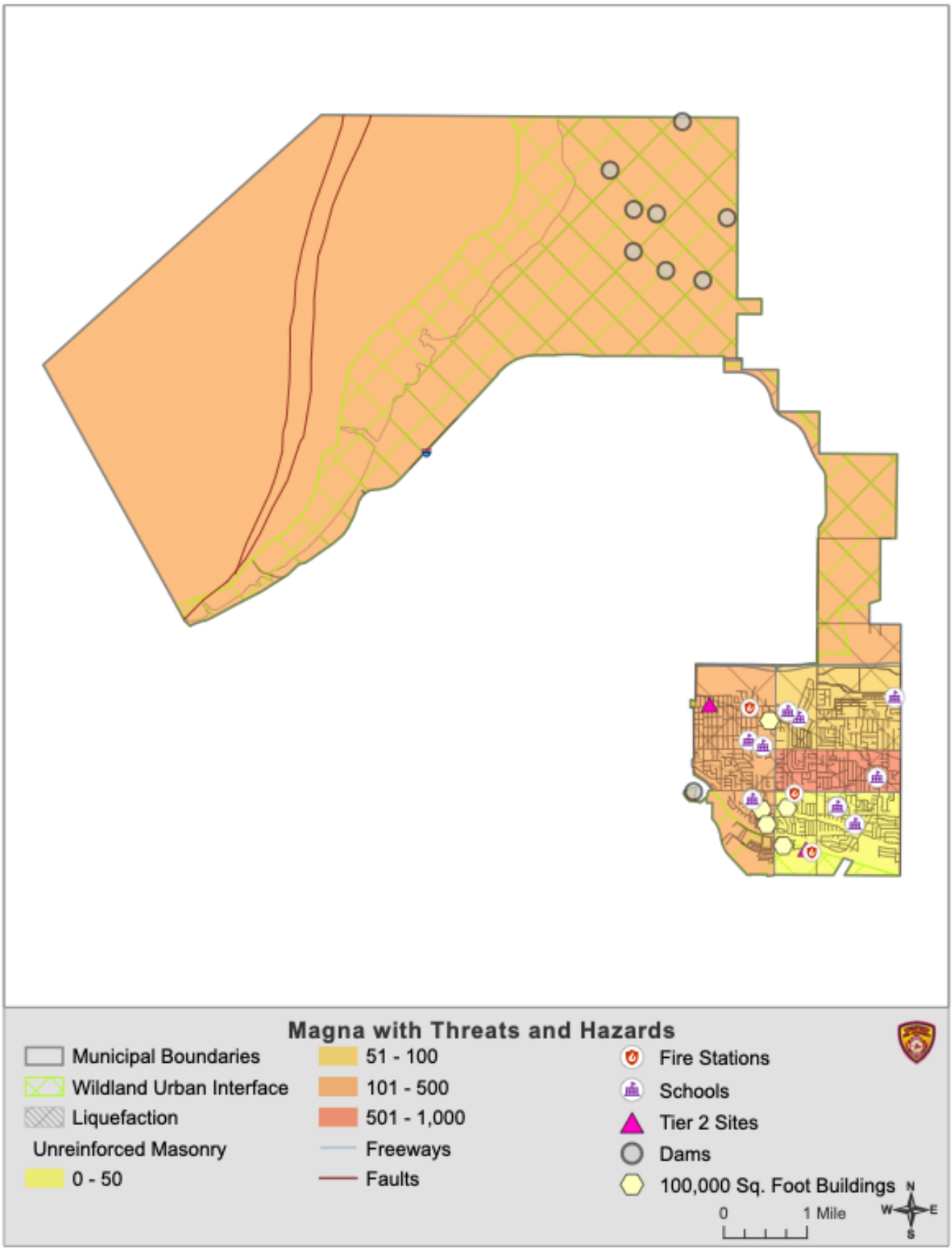
Some of the target-hazard occupancies in Magna include:

- ATK/Northrop Grumman – 5000 S 8400 W
- Copperview Apts – 3400 S Copperfield Place
- Deseret Soap – 3602 S 7200 W
- Elk Run Apts – 8525 W Elk Mountain Rd
- FedEx Warehouse – 2490 S 7600 W

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- G-L Industries – 3909 S 8000 W
- Kennecott/Rio Tinto, Smelter / Refinery / Powerhouse – Kennecott Property
- Magna Medical – 3665 S 8400 W
- Oquirrh Hill Apts – 2850 S 8400 W
- Saltair Venue – 12408 W Saltair Dr

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Map 170 – Magna with Combined Hazards

Life and Property Loss

From 2015-2020, there has been one fatality attributed to fire. There has been a total estimate of $2,316,619.00 of property loss and a total estimate of $776,081.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has surface water capability, swift water capability, and ice rescue capability. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house Water Rescue Companies.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Midvale City

Community Risk Assessment



Photo Courtesy of: Steve Milner/Gephardt Daily

Midvale City Planning Zone

UFA has two stations within the Midvale City Planning Zone covering a total of 5.92 square miles with a population of 36,028 and responded to 4,031 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Midvale City	36,028	7.99%	5.92	6,086	Urban

Midvale City has increased its population from 27,909 in 2010 to 36,028 in 2020, showing an increase of 22.54% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 35 demonstrates that Midvale City could possibly grow to 52,584 by the year 2040.

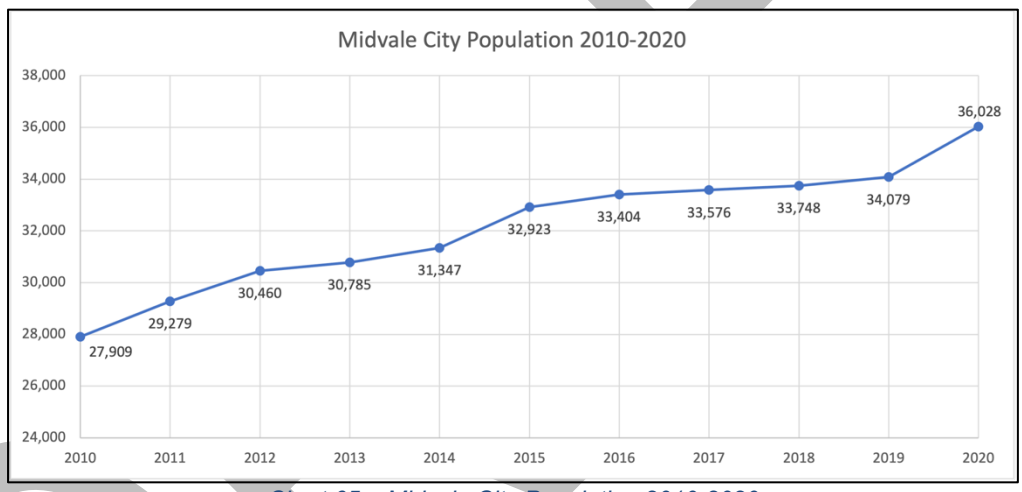


Chart 65 – Midvale City Population 2010-2020

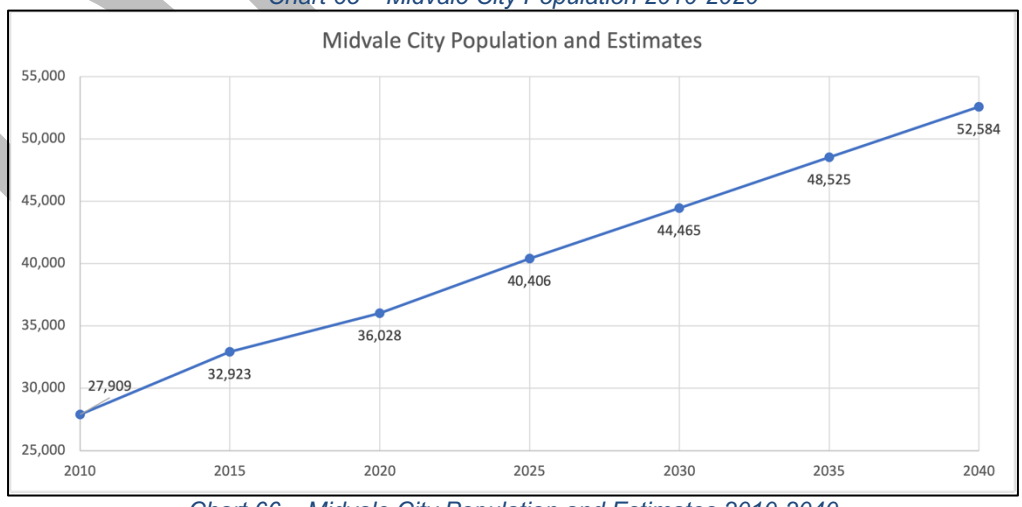


Chart 66 – Midvale City Population and Estimates 2010-2040

Midvale City Station Information

Station 125 information:

- Owner – Midvale City
- Opened – 1988 (Currently being rebuilt)
- Address – 7683 S. Holden Street
- Staffing and Apparatus –
  - Type 1, ME 125 (4 persons)
  - MA 225 (2 part-time persons – 24 hour)
  - Type 6, Brush Truck (cross-staffed)



Image 18 – Midvale City Station 125

Station 126 information:

- Owner – UFSA
- Opened – 2000
- Address – 607 E 7200 S
- Staffing and Apparatus –
  - Type 1, ME 126 (4 persons)
  - MA 126 (2 persons)
  - Hazardous Material (cross-staffed)
  - Operations Chief (1 person)



Image 19 – Midvale City Station 126

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to the Midvale City are:

- UFA Station 110 (Cottonwood Heights), with a four-person medic ladder and a two-person medic ambulance
- UFA Station 116 (Cottonwood Heights), with a three-person medic engine

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- UFA Station 117 (Taylorsville City), with a four-person medic ladder, a four-person medic engine and a two-person medic ambulance
- UFA Station 118 (Taylorsville City), with a four-person medic engine and a two-person medic ambulance
- Sandy City Station 31, with a three-person medic engine and a two-person medic ambulance
- Sandy City Station 32, with a three-person medic engine and a two-person medic ambulance
- Sandy City Station 34, with a three-person medic engine
- Sandy City Station 35, with a three-person medic engine and a two-person medic ambulance
- South Jordan City Station 61, with a five-person ladder truck, a two-person medic ambulance
- South Jordan City Station 63, with a three-person medic engine and a two-person medic ambulance
- West Jordan City Station 52, with a three-person engine and a two-person medic ambulance
- West Jordan City Station 53, with a three-person medic engine and a two-person medic ambulance
- Murray City Station 81, with a three-person medic engine and a two-person medic ambulance
- Murray City Station 82, with a three-person medic engine and a two-person medic ambulance
- Murray City Station 83, with a three-person medic engine and a two-person medic ambulance

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Midvale – Incidents by Dispatch Type

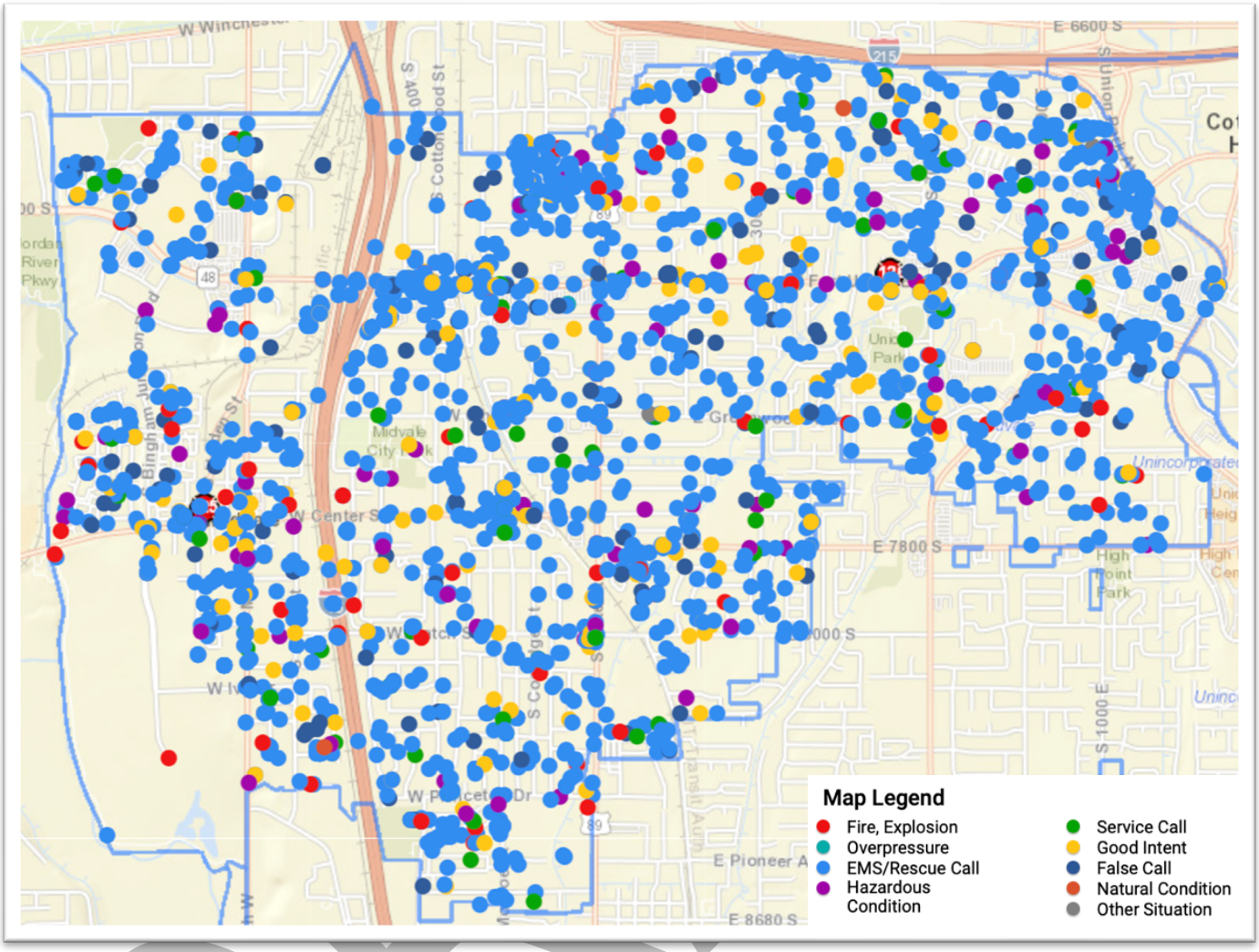
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	77	52	59
EMS	2,583	2,434	2,622
Hazardous Materials	81	47	51
Service Calls	117	128	105
Good Intent	607	492	352
False Calls	208	203	172
Other (Misc., Flood, Overpressure)	5	2	6
Total	3,679	3,358	3,367
Cancelled	352	258	242
Overall Total	4,031	3,616	3,609

Table 114 – Midvale City Call Type

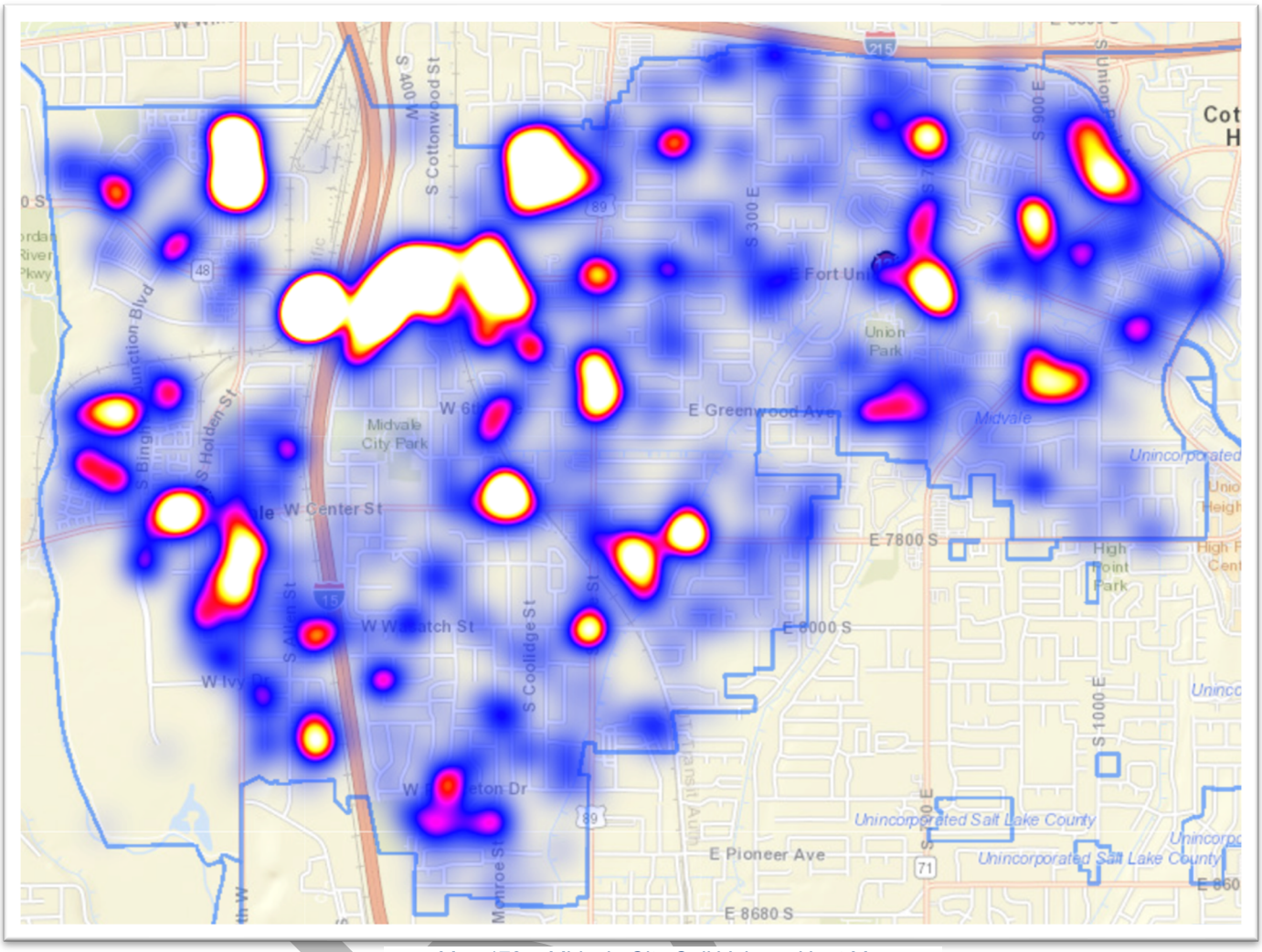
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Midvale City – 2020 Incidents and Heat Map



Map 171 – Midvale City Incident Calls by Type

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Map 172 – Midvale City Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

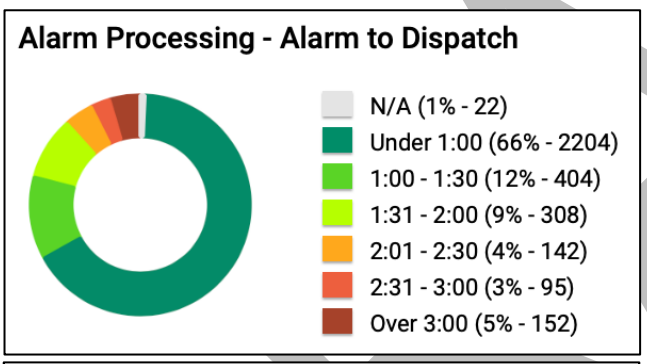
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time

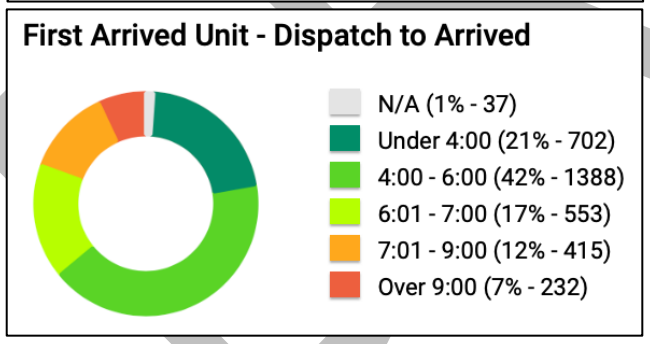
for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

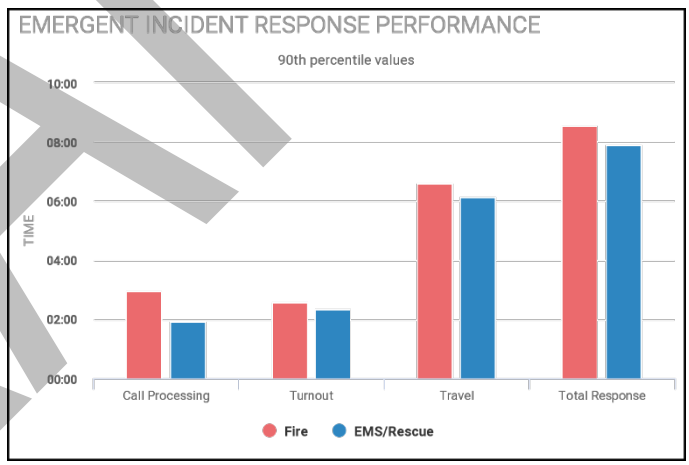
– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

Midvale City – 2020 Dispatch and Response Times



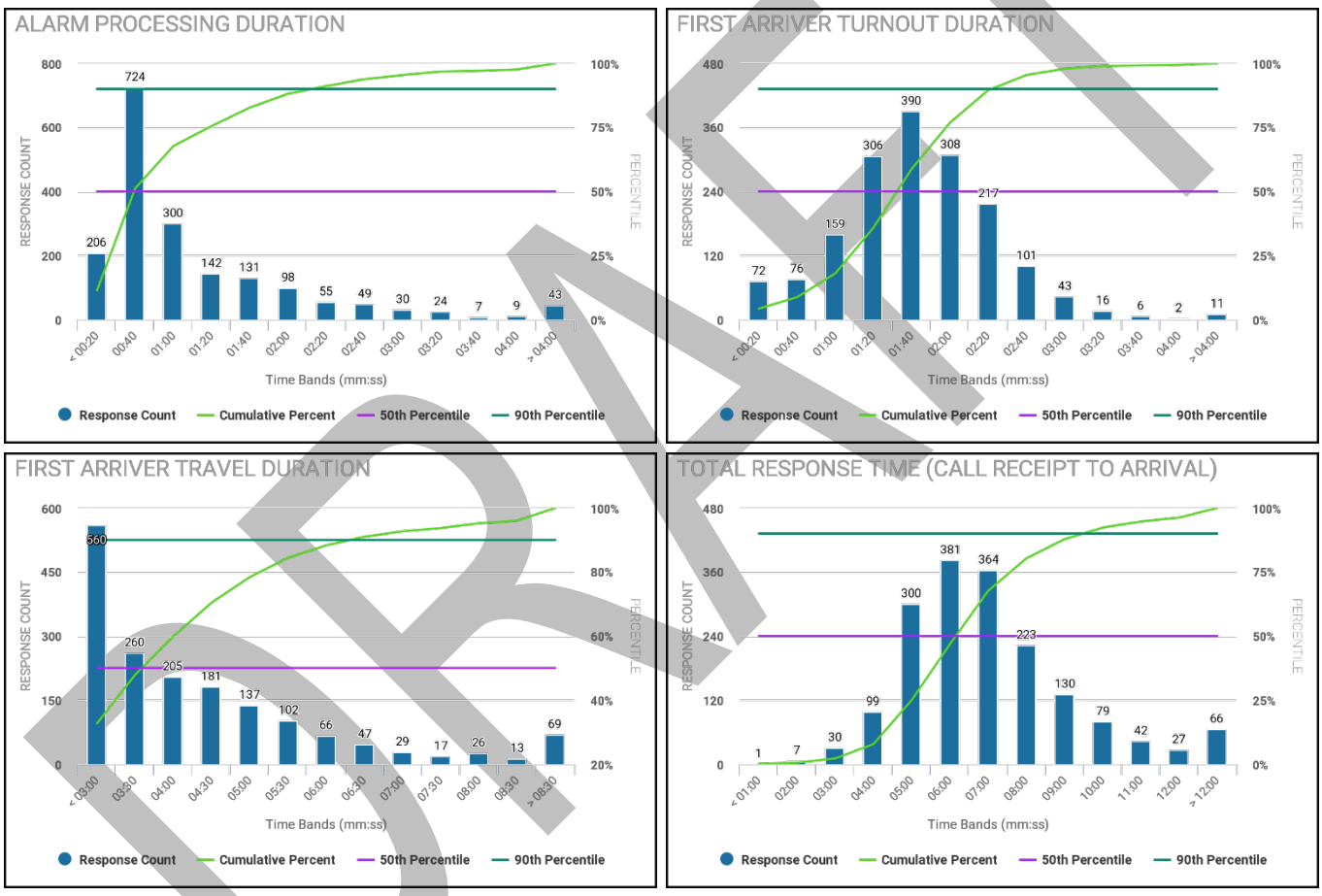




Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Midvale	2:40	2:22	7:32	10:07	1:51	2:21	6:19	9:04
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 115 – Midvale City 2020 Emergent Response Times, 90th percentile values

Midvale City – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Midvale City (90th percentile). The alarm processing for fire was 2:40 and 1:51 for EMS; turnout time was 2:22 for fire responses and 2:21 for EMS responses; travel time was 7:32 for fire responses and 6:19 for EMS. The 90th percentile total response time was 10:07 for fire and 9:04 for EMS. For the charts above, they show both fire and EMS response times together.

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– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

Midvale City – 2020 Incidents by Time of Day

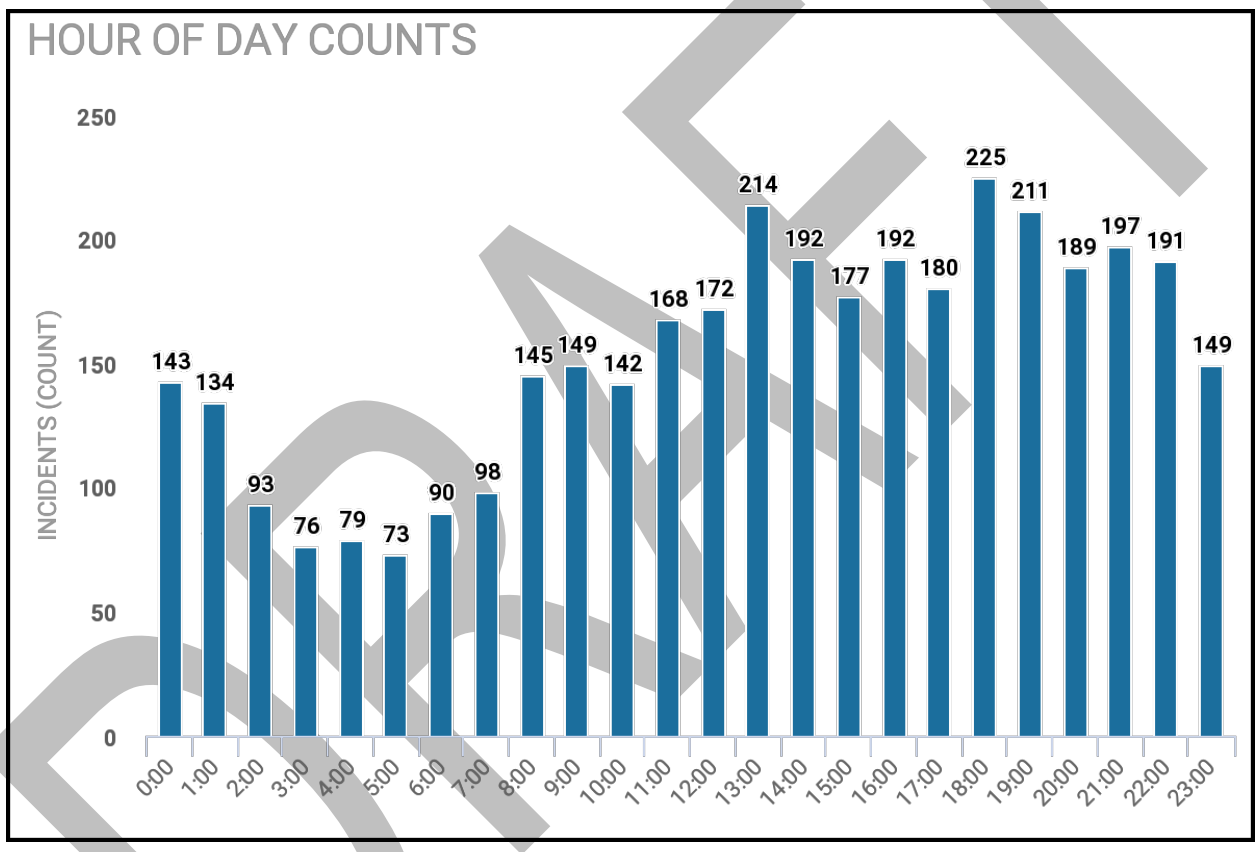


Chart 67 –Midvale City 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Midvale City for all service calls. This chart illustrates that the greatest demand for service delivery begins at 08:00 AM and starts to decrease at 10:00 PM.

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Midvale City – 2020 Incidents by Day of Week

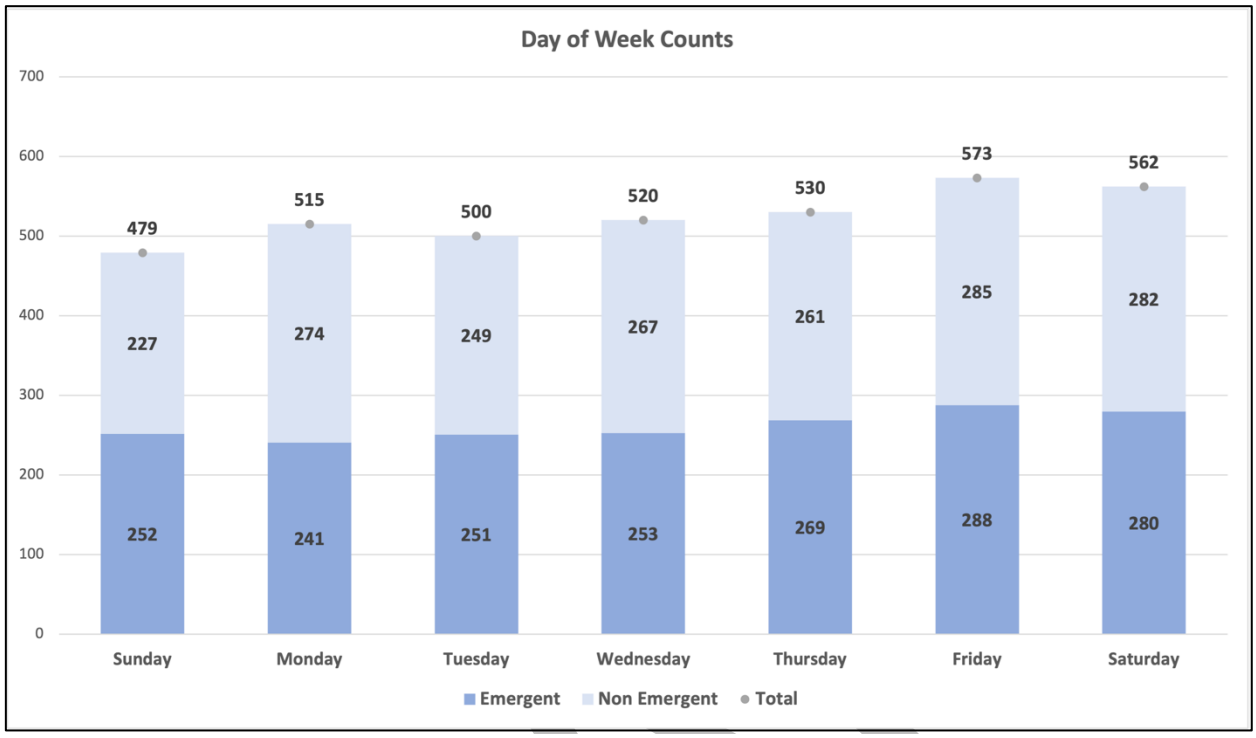


Chart 68 – Midvale Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls as well as the peak volume for all calls in Midvale City occurring on Friday.

Midvale City – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	957	993	1,145
BLS Transports	1,772	1,478	1,425
Scene Release	159	152	438
Public Assistance	24	21	12
EMS Total Calls	2,888	2,623	3,008
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 116 –Midvale City EMS Calls

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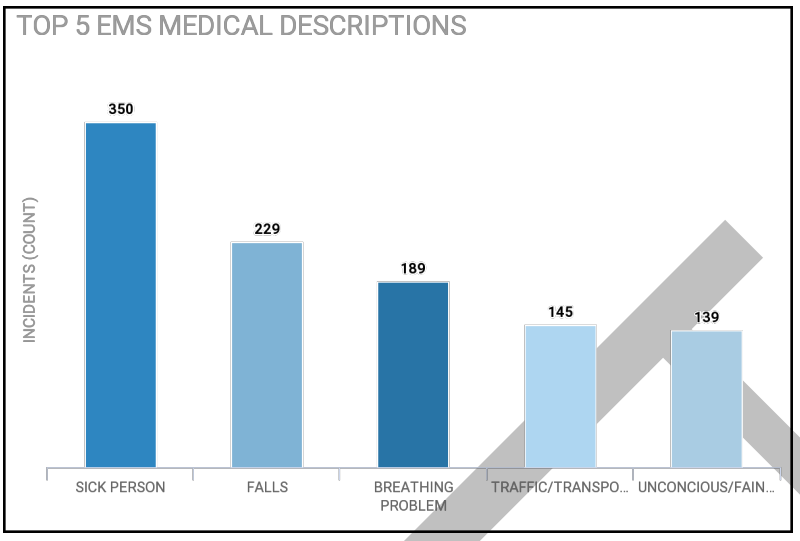


Chart 69 - Top 5 EMS Medical Calls - 2020

Midvale City – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	122	44.53%
Natural Vegetation Fire	48	17.52%
Outside Rubbish Fire	38	13.87%
Vehicle Fire	43	15.69%
Special Outside Fire	8	2.92%
Fire, Other	7	2.55%
Mobile Property Fire	8	2.92%
Total	274	100%

Table 117 – Midvale City 2020 Incidents by Dispatch Type

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Midvale City – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	21	2	3	0	26
Commercial/Industrial	12	15	33	2	62
Educational	0	1	2	3	6
Government	5	0	0	0	5
Healthcare	1	0	1	0	2
Hazardous	Unknown	Unknown	Unknown	Unknown	94*
Storage	0	1	3	0	4
Residential	1,916	2,580	10	2	4,508
Residential – Multi Unit	108	357	42	23	530
High Rise	N/A	N/A	1	3	4
Total	2,063	2,956	95	33	5,241

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

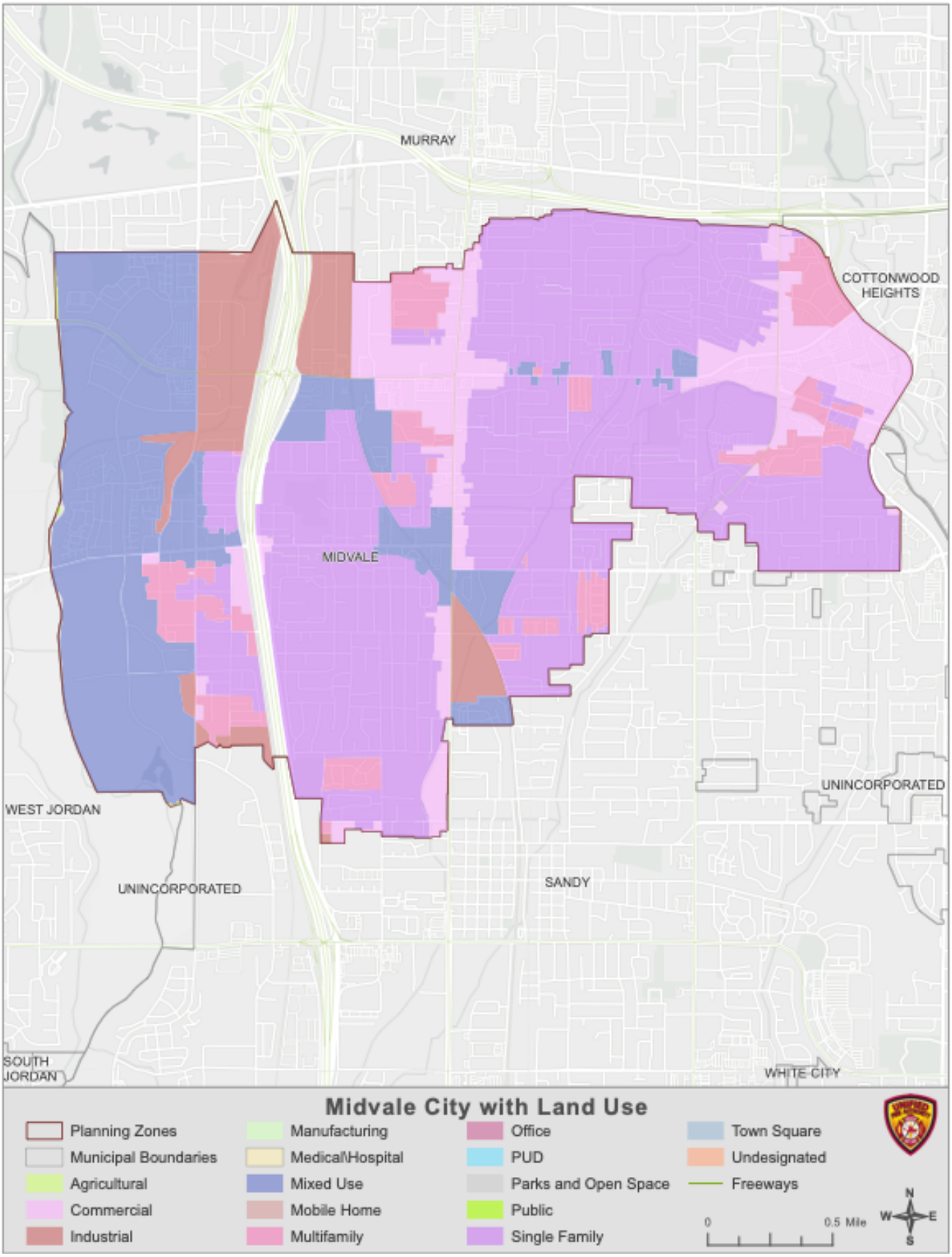
Table 118 – Midvale City Building Occupancy and Risk Categories

Building Size / Considerations

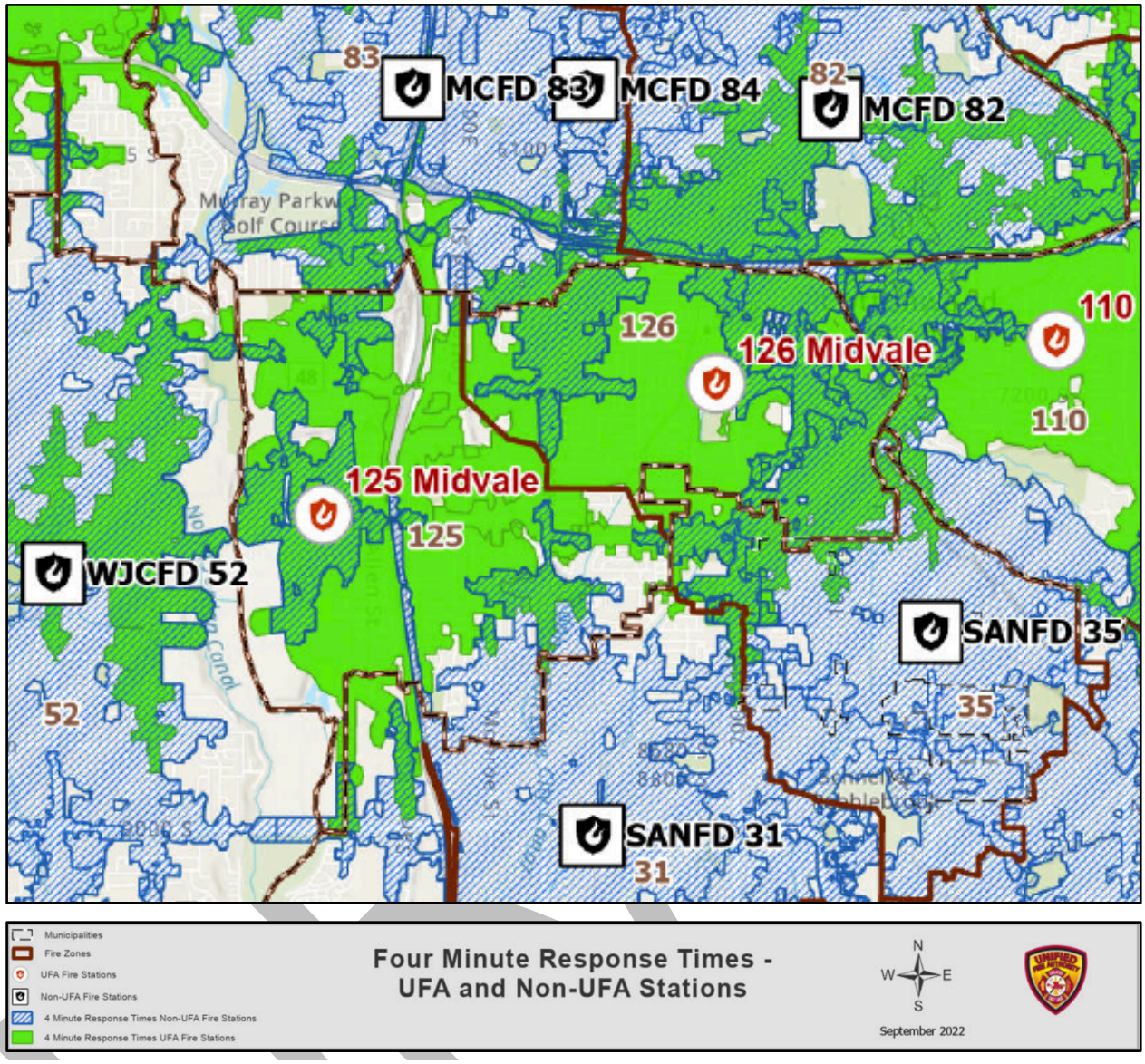
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

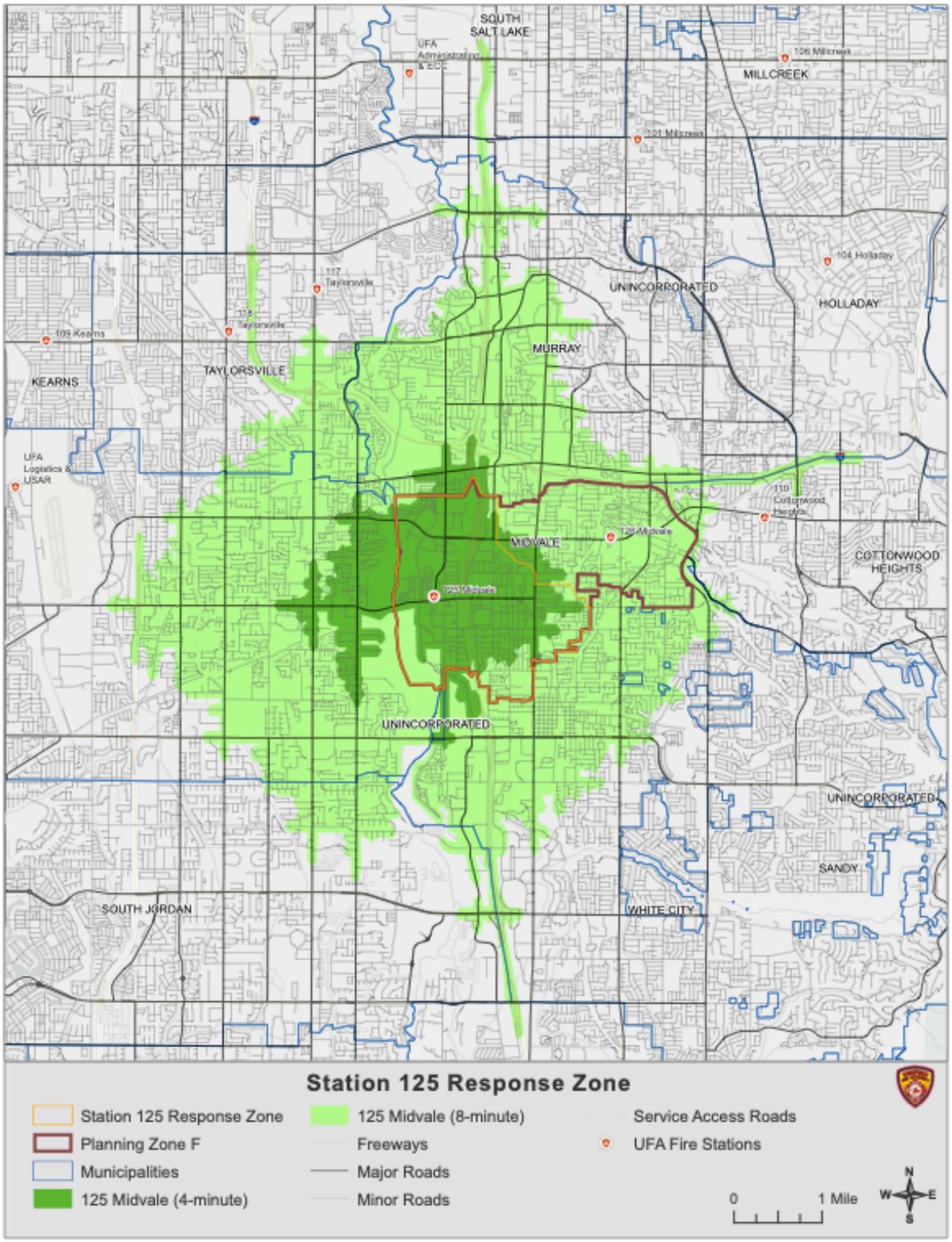
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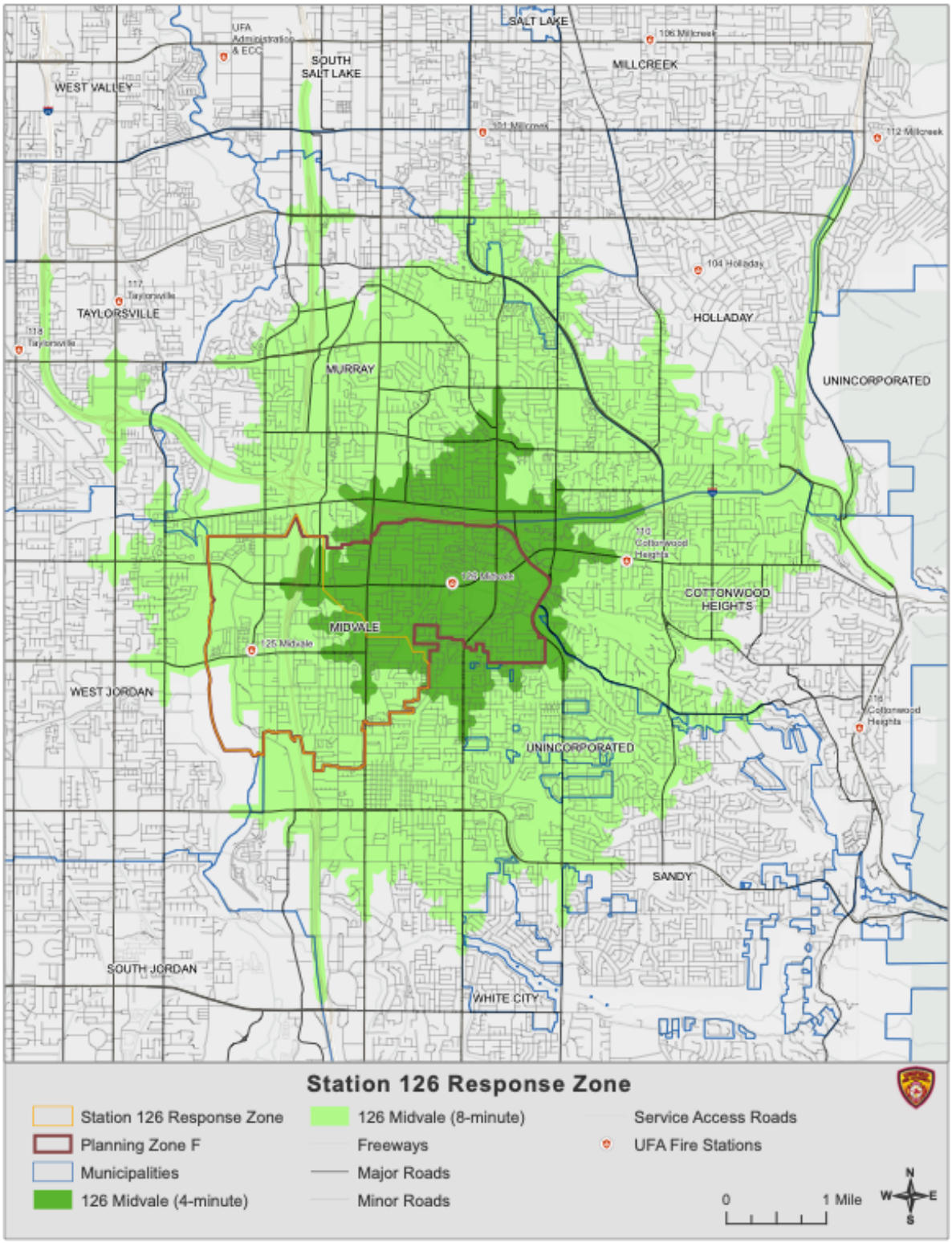
Map 173 – Midvale City with Land Use



Map 174 - 4-Minute Travel Time, UFA and Aid



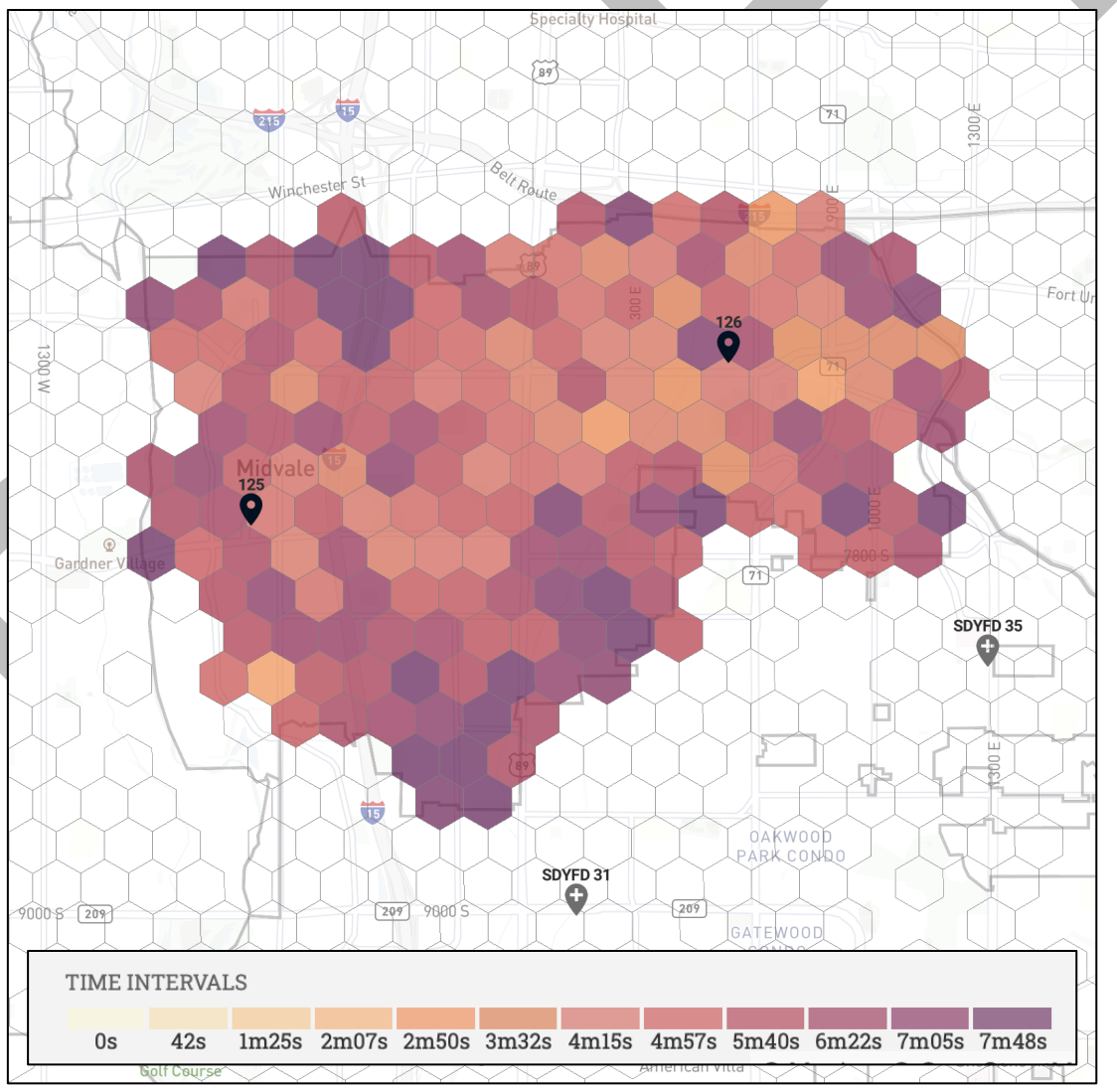
Map 175 - Station 125 4- and 8-Minute Travel Times



Map 176 - Station 126 4- and 8-Minute Travel Times

Midvale City – First Arriver Travel Times

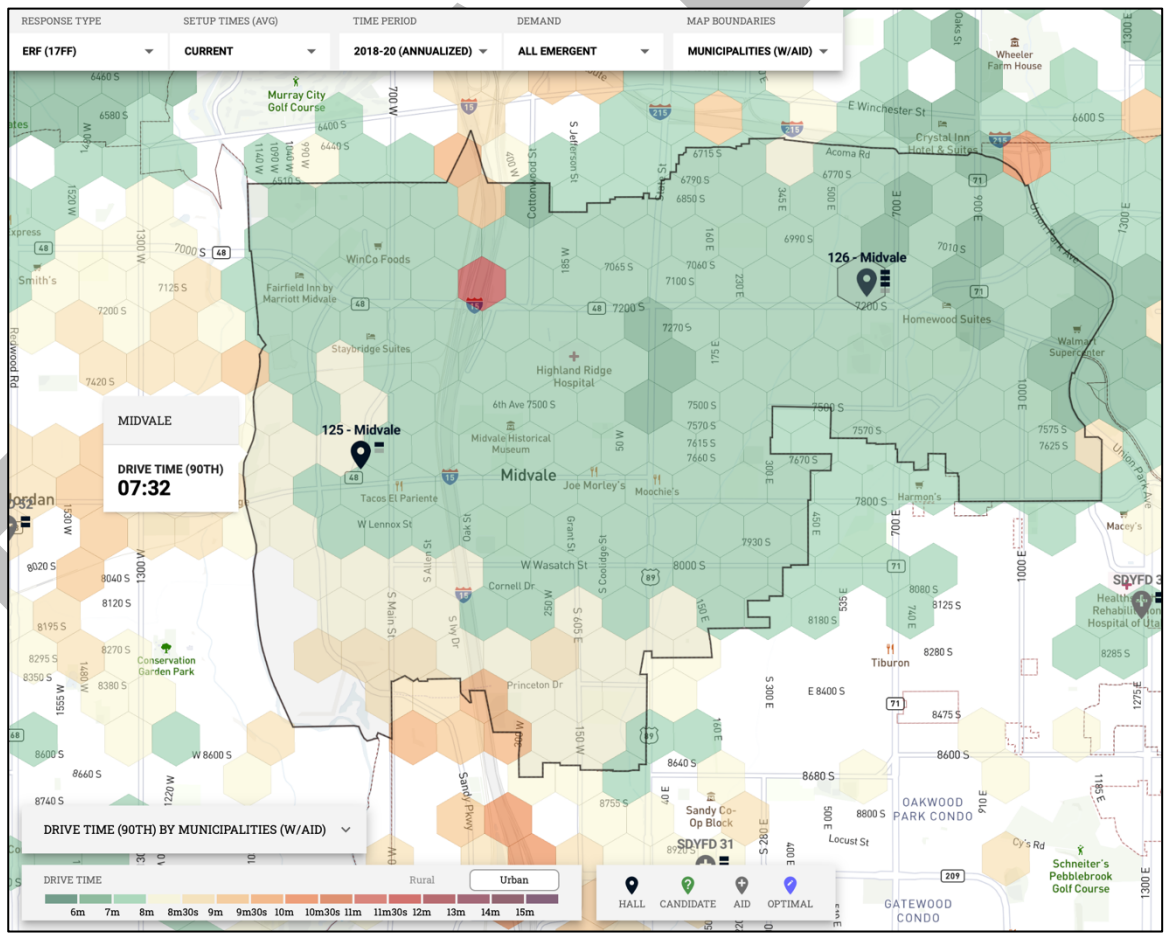
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the lighter colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently within Midvale City, the 90th percentile drive time is 7:32 for fire and 6:19 for EMS.



Map 177 –Midvale City Response Times – All Aid

Midvale City – Residential Fire Effective Response Force (17 FF)

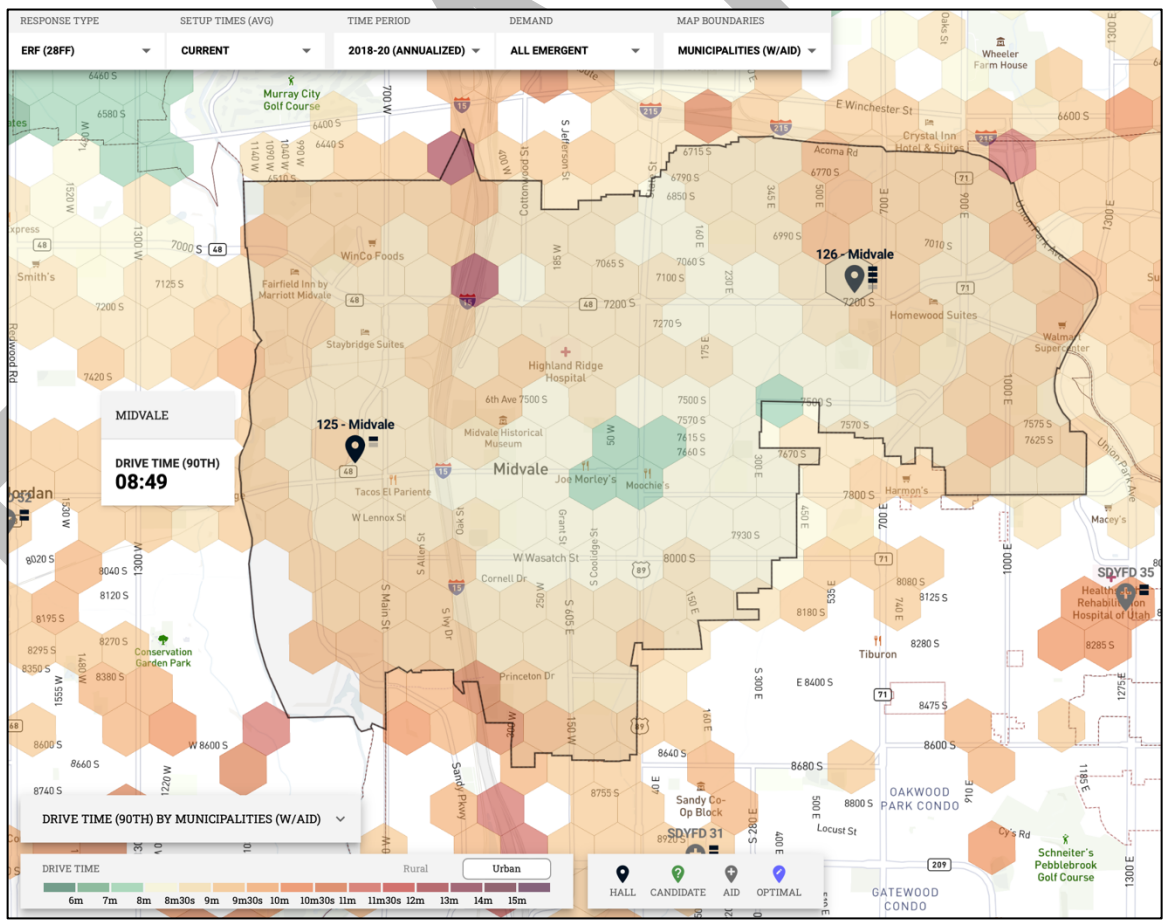
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 7:32.



Map 178 – Midvale City Response Times – Residential Fire Effective Response Force (17 ERF)

Midvale City – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 08:49.



Map 179 – Midvale City Response Times – Commercial Fire Effective Response Force (28 FF)

Midvale City Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Mod	Low	High	Low	Low	Mod	Low	Mod	Mod	Mod	High	Mod

Table 119 – Midvale City Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Midvale City or directly bordering the city. I-15 runs through the city itself and I-215 runs on the north border of the city. Several arterials and state roads also run through Midvale, with Fort Union Blvd, and State Street. There are 10.65 linear miles of Interstate/US Highway, 3 linear miles of State Highways, and 114 total linear miles of roadway. There is also heavy rail and UTA also has light rail and bus routes through the city, with the main bus routes running on Fort Union Blvd. Midvale City is in the moderate-risk category for road infrastructure.

Infrastructure – Water

There are three water districts within Midvale City, Midvale City Water, Sandy City Water, and the Jordan Valley Water Conservancy District.

Infrastructure – Dams

There are no identified dams within Midvale City. Midvale City is in the low-risk category for dam infrastructure.

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Natural Hazards

Within Cottonwood Heights, there are no concerns with avalanche areas. Midvale City is in the low-risk category for avalanche. There are no identified fault lines that run through the city (see Map 8). Cottonwood Heights is in the high-risk category for liquefaction and low-risk category for fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Midvale City, with an estimated 2,641 URM's, which constitutes about 10.76 % of the overall URM's within UFA's response areas. Midvale City is in the moderate-risk category for unreinforced masonry.

Wildland Urban Interface

There is low risk of urban interface fires within Midvale City, although on the western border of Midvale City, there is moderate risk of urban interface fires within the Jordan River Parkway. Midvale City is in the low-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are eight identified HazMat/Tier II Sites within Midvale City, which is in the moderate-risk category.

Hospitals

Midvale City has one standalone hospital that is an adult inpatient substance abuse and psychiatric treatment facility — not an emergent care hospital. This places Midvale in the moderate-risk category for hospitals.

Schools

Midvale City has four elementary schools, one middle schools, and one high school within city boundaries — in addition to two special needs K-12 schools — which places it in the moderate-risk category.

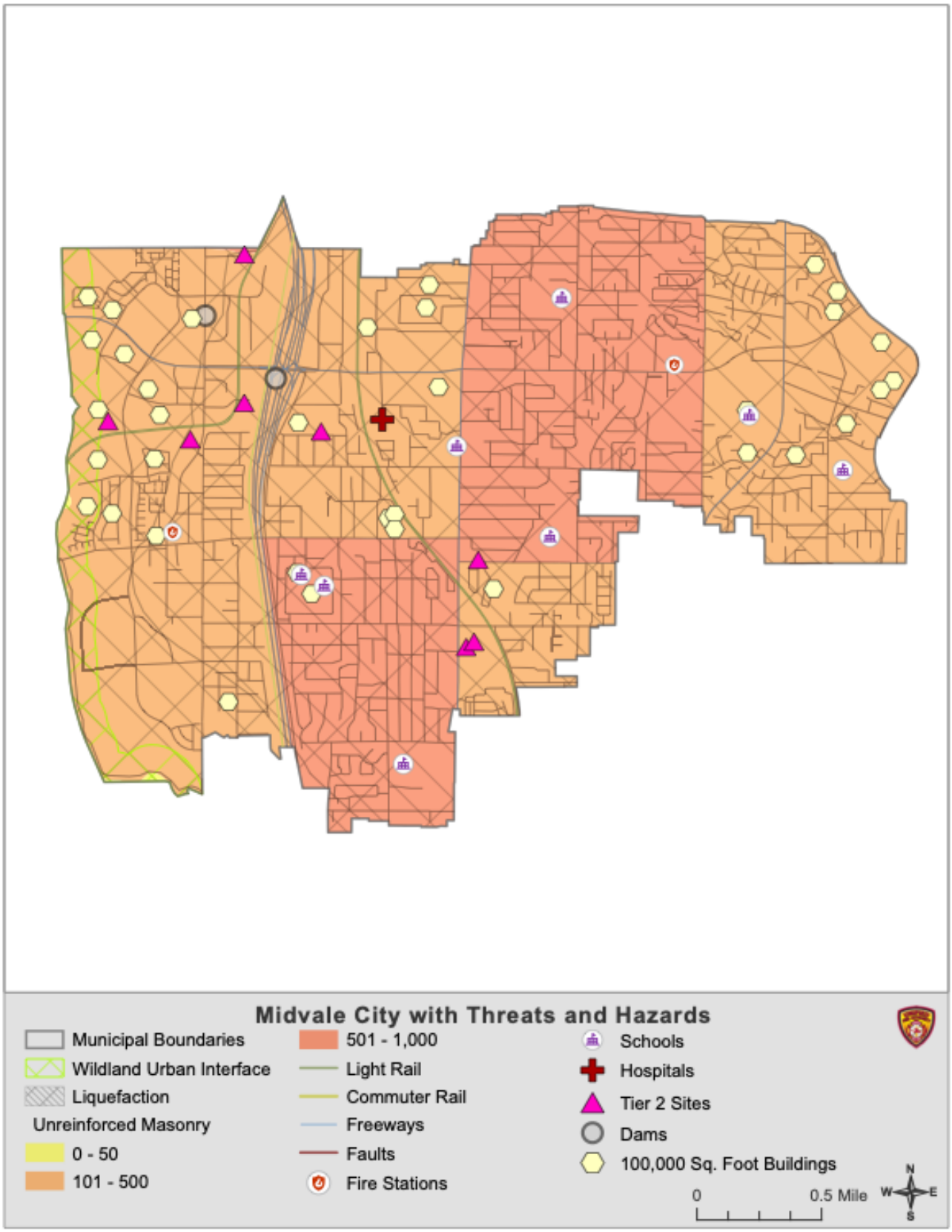
Target Hazards – Structures

Some of the target-hazard occupancies in Midvale City include:

- FL Smidth – 7158 S FLSmidth Drive
- IHC Supply Center – 7302 Bingham Junction Blvd
- Cardwell – 8000 S State Street
- Builders First Source – 7380 S 700 W

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- Dal Soglio – 7398 S 700 W



Map 180 – Midvale City with Combined Hazards

Life and Property Loss

From 2015-2020, there has been one fatality attributed to fire. There has been a total estimate of $5,703,915.00 of property loss and a total estimate of $1,222,829.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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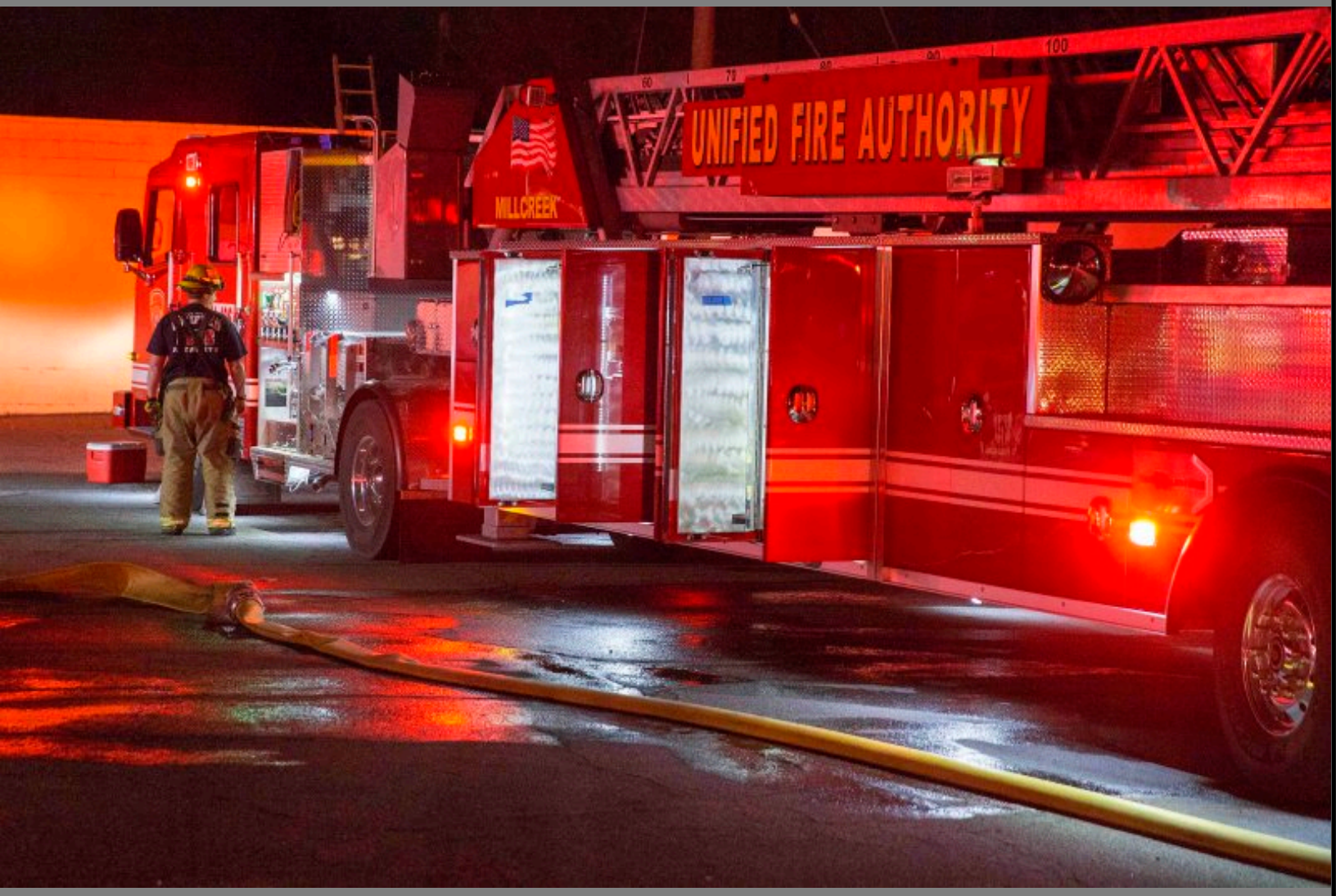


Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

City of Millcreek

Community Risk Assessment



Millcreek City Planning Zone

UFA has three stations within the Millcreek City Planning Zone covering a total of 12.77 square miles with a population of 63,380 and responded to 5,676 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
City of Millcreek	63,380	14.05%	12.77	4,963	Urban

Millcreek City has increased its population from 58,853 in 2010 to 63,380 in 2020, showing an increase of 7.14% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 15 demonstrates that Millcreek could grow to 72,111 by the year 2040.

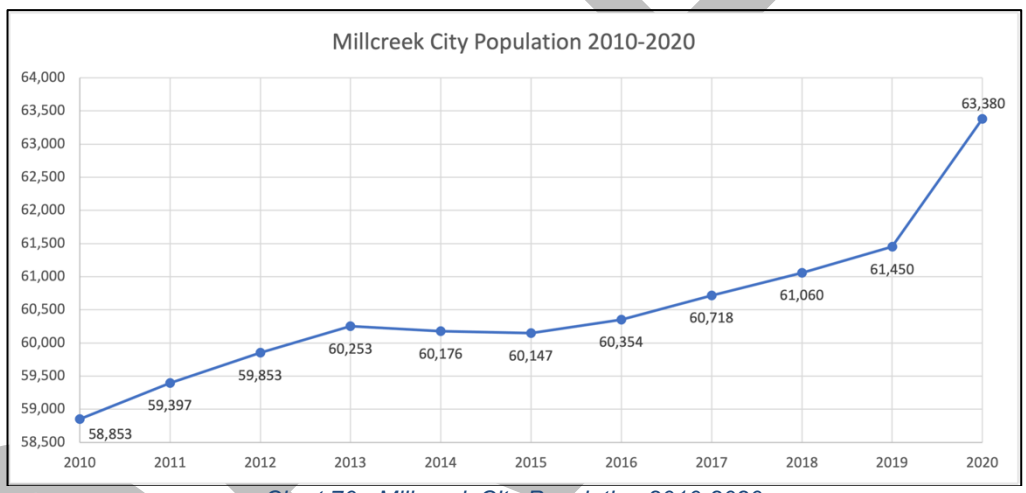


Chart 70 - Millcreek City Population 2010-2020

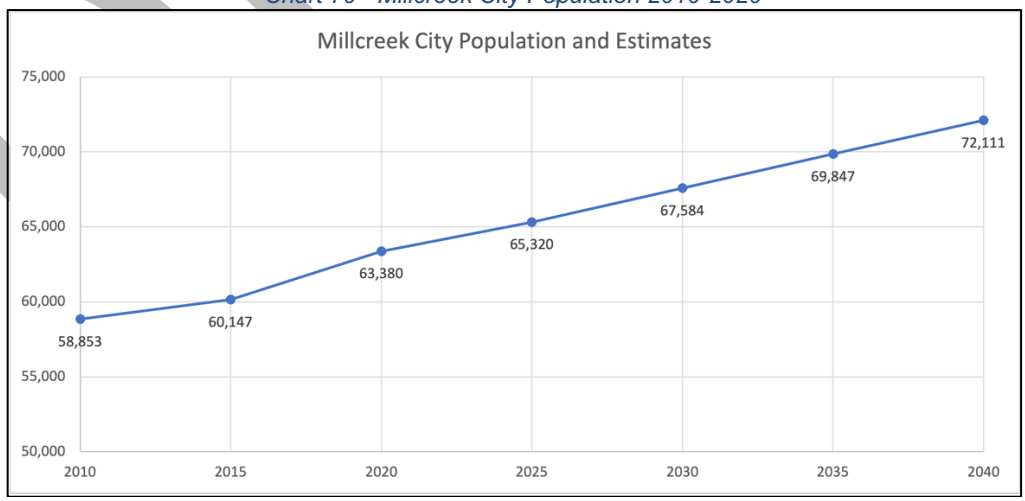


Chart 71 - Millcreek City Population and Estimates 2010-2040

Millcreek City Station Information

Station 101 information:

- Owner – UFSA
- Opened – 2010
- Address – 790 East 3900 South
- Staffing and Apparatus –
  - Type 1, ME 101 (4 persons)
  - MA 101 (2 persons)
  - Battalion Chief 11 (1 person)



Image 20 – Millcreek City Station 101

Station 106 information:

- Owner – UFSA
- Opened – 2010
- Address – 1911 East 3300 South
- Staffing and Apparatus –
  - Type 1, ML 106 (4 persons)
  - MA 106 (2 persons)
  - Type 1, Water Tender (cross-staffed)
  - Type 6, Brush Truck (cross-staffed)



Image 21 – Millcreek City Station 106

Station 112 information:

- Owner – UFSA
- Opened – 1965
- Address – 3612 Jupiter Drive
- Staffing and Apparatus –
  - Type 1, ME 112 (4 persons)
  - Type 6, Brush Truck (cross-staffed)



Image 22 – Millcreek City Station 112

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Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Millcreek City are:

- UFA Station 104 (Holladay City), with a four-person medic engine and a two-person peak-load medic ambulance
- UFA Station 117 (Taylorsville City), with a four-person medic engine, a four-person medic ladder, and a two-person medic ambulance
- Murray City Station 81, with a three-person medic engine and a two-person medic ambulance
- Murray City Station 82, with a three-person medic engine and a two-person medic ambulance
- West Valley Station 75 with a three-person engine and a two-person medic ambulance
- South Salt Lake Station 41 with a three-person engine and a two-person medic ambulance
- South Salt Lake Station 42 with a three-person engine and a two-person medic ambulance
- South Salt Lake Station 43 with a three-person engine and a two-person medic ambulance.

Millcreek City – Incidents by Dispatch Type

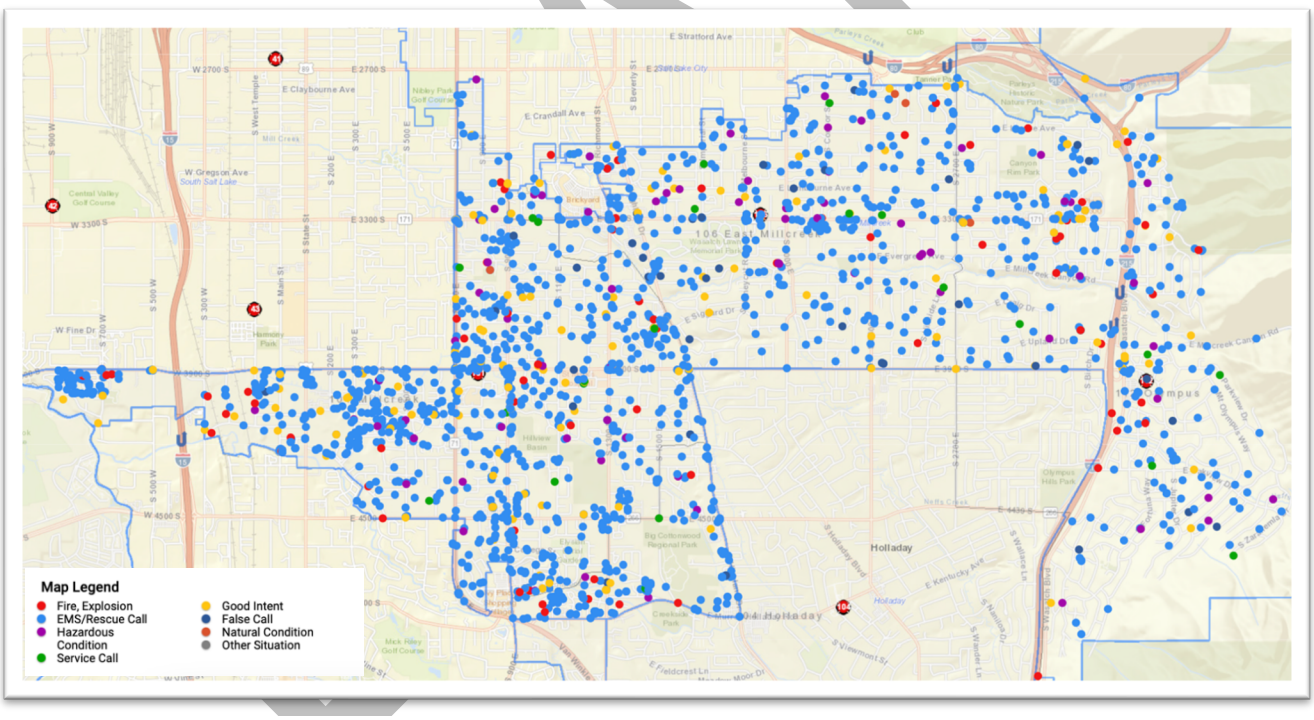
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

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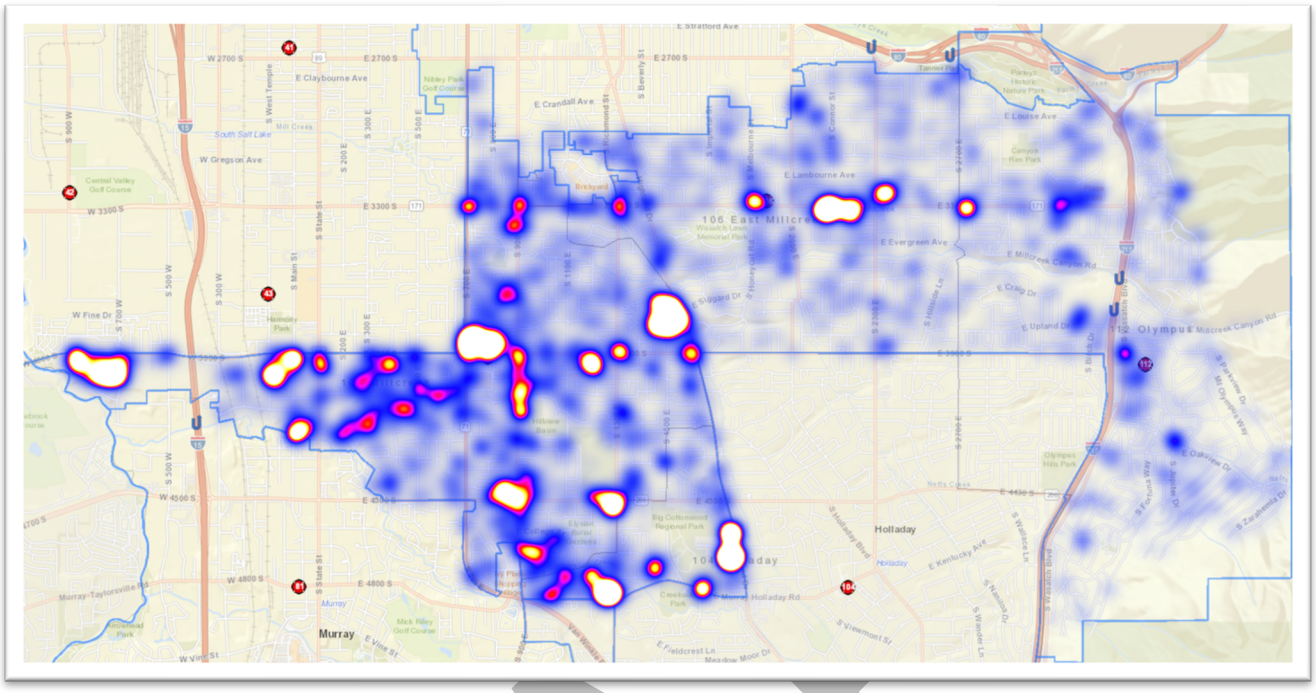
	CY 2020	CY 2019	CY 2018
Fire Suppression	108	84	104
EMS	3,494	3,316	3,486
Hazardous Materials	169	103	106
Service Calls	156	355	270
Good Intent	930	731	585
False Calls	287	343	308
Other (Misc., Flood, Overpressure)	17	3	16
Total	5,163	4,935	4,875
Cancelled	513	375	449
Overall Total	5,676	5,310	5,324

Table 120 – Millcreek City Call Type

Millcreek City – 2020 Incidents and Heat Map



Map 181 - Millcreek City Incident Calls by Call Type



Map 182 - Millcreek City Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total

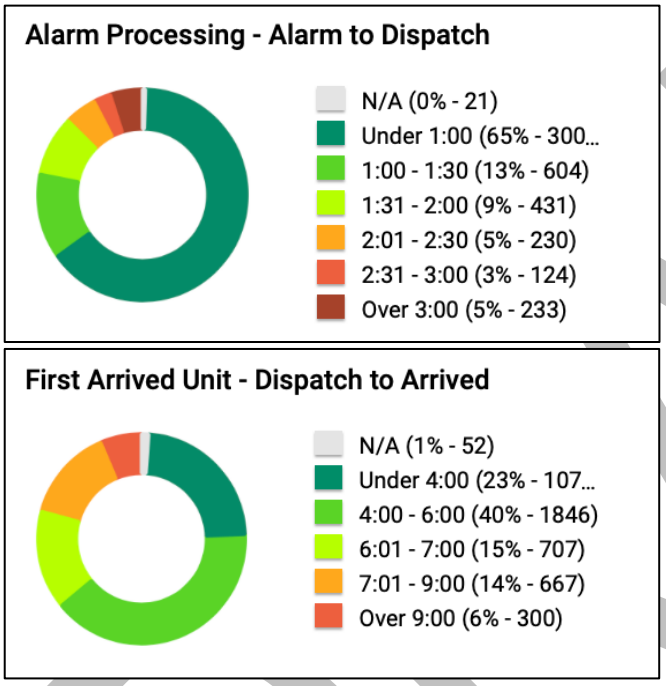
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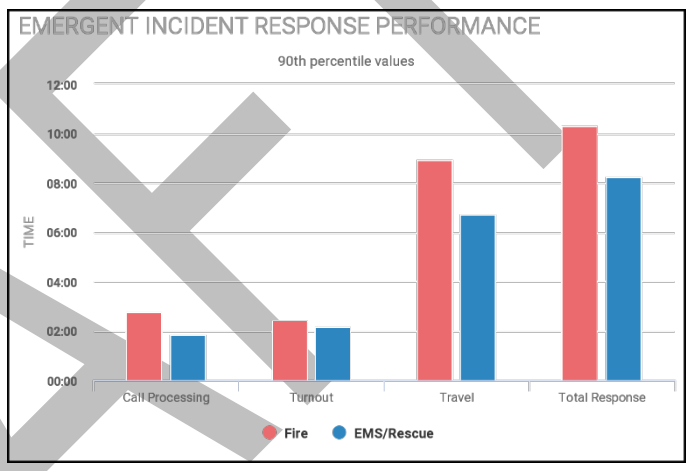
response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

Millcreek City – 2020 Dispatch and Response Times

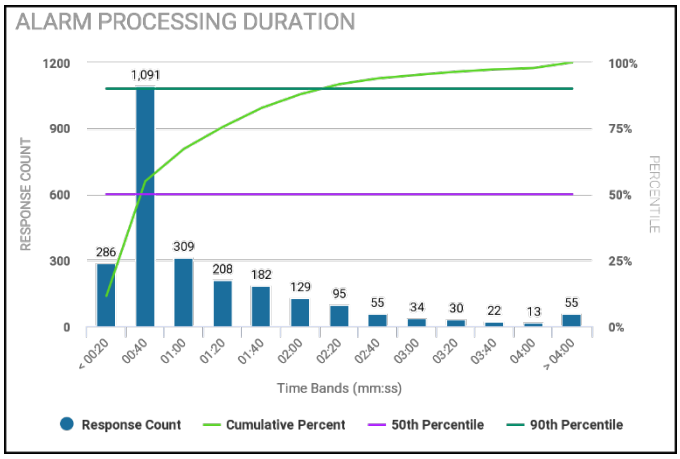


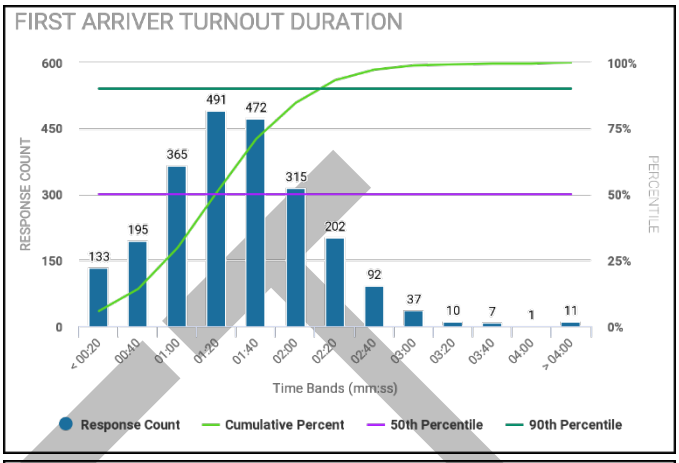


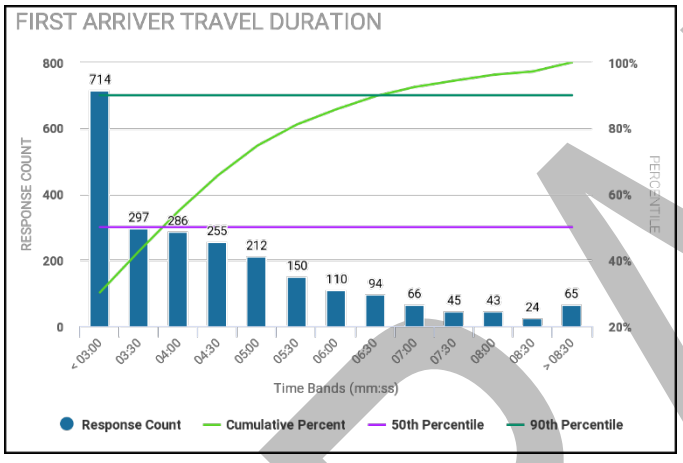
Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Millcreek	2:29	2:15	7:24	10:06	1:53	2:09	6:24	8:56
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

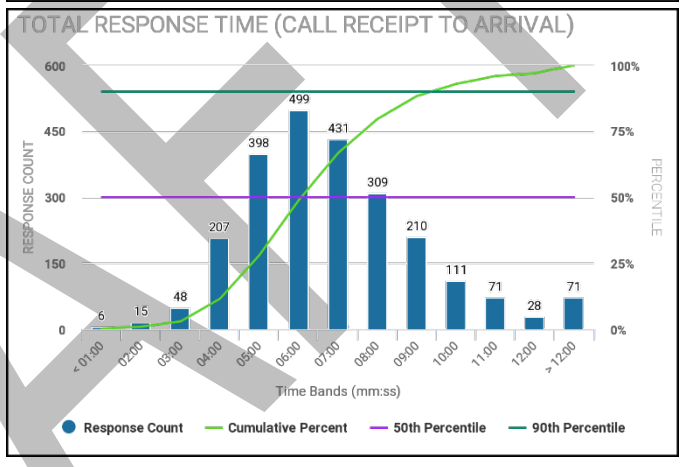
Table 121 – Millcreek City 2020 Emergent Response Times, 90th percentile values

Millcreek City – 2020 Turnout and Travel Times









The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Millcreek City. The 90th percentile for alarm processing was 2:29 for fire and 1:53 for EMS, the 90th percentile turnout time was 2:15 for fire responses and 2:09 for EMS responses. The 90th percentile travel time was 7:24 for fire responses and 6:24 for EMS. The 90th percentile total response time was 10:06 for fire and 8:56 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

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Millcreek City – 2020 Incidents by Time of Day

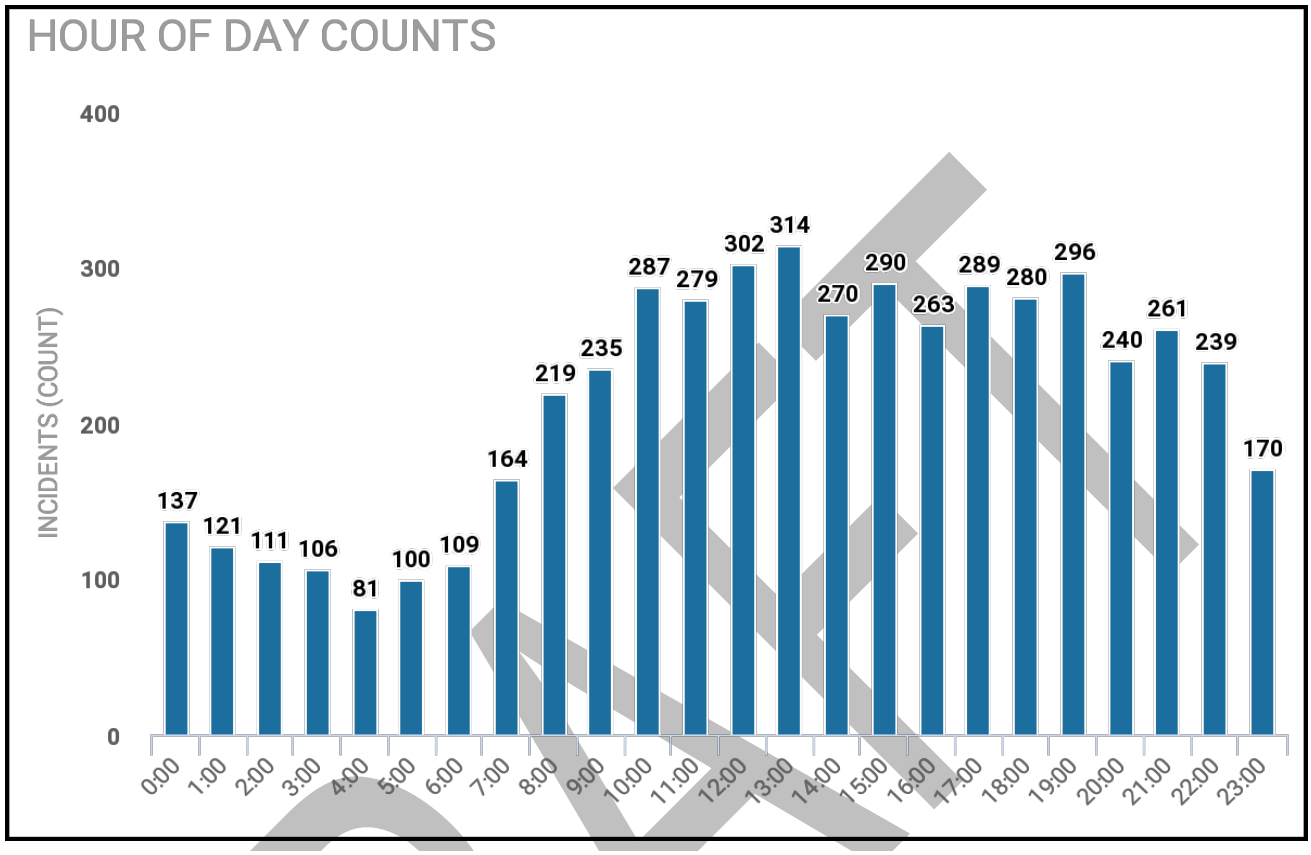


Chart 72 – Millcreek City 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Millcreek City for all service calls. This chart illustrates that the greatest demand for service delivery begins to increase at 6:00 AM and starts to decrease at 7:00 PM.

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Millcreek City – 2020 Incidents by Day of Week

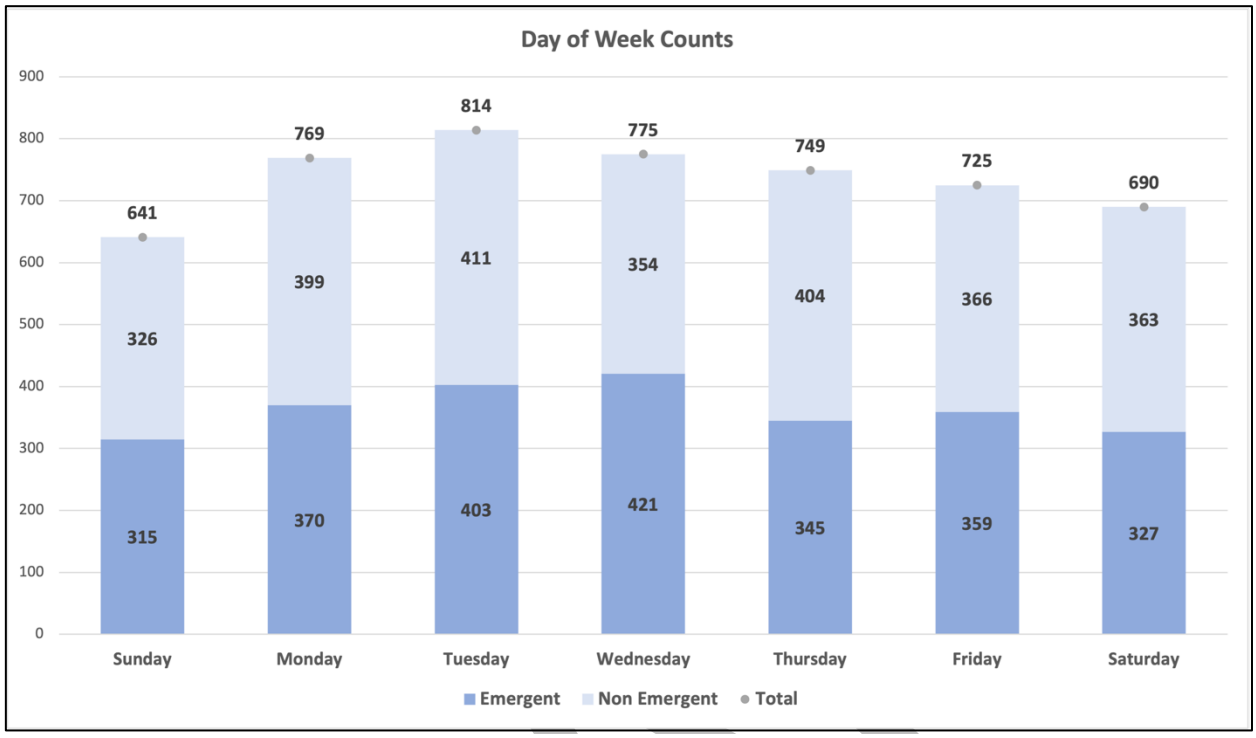


Chart 73 - Millcreek City Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls beginning Monday. The peak volume for all calls in Millcreek City occurs on Tuesday.

Millcreek City – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	1,216	1,228	1,535
BLS Transports	2,217	1,585	1,785
Scene Release	275	327	842
Public Assistance	8	39	31
EMS Total Calls	3,716	3,179	4,193

Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.

Table 122 – Millcreek City EMS Calls

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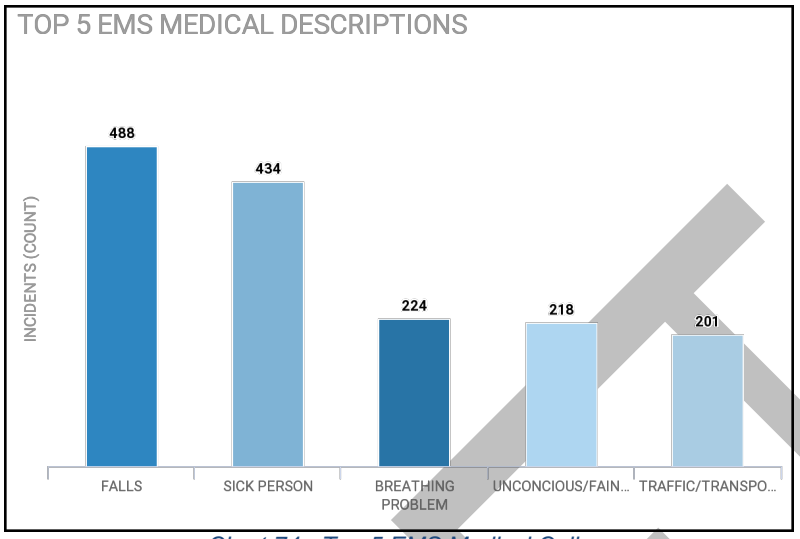


Chart 74 - Top 5 EMS Medical Calls

Millcreek City – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	51	41.8%
Natural Vegetation Fire	20	16.4%
Outside Rubbish Fire	22	18%
Vehicle Fire	21	17.2%
Special Outside Fire	1	0.8%
Fire, Other	6	4.9%
Mobile Property Fire	1	0.8%
Total	122	100%

Table 123 – Millcreek City 2020 Incidents by Dispatch Type

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Millcreek City – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	31	2	18	1	52
Commercial/Industrial	15	27	46	7	95
Educational	0	12	5	2	19
Government	11	0	1	1	13
Healthcare	2	1	5	1	9
Hazardous	Unknown	Unknown	Unknown	Unknown	106*
Storage	3	1	8	0	12
Residential	3,761	7,555	1,541	25	12,882
Residential – Multi Unit	352	533	109	52	1,046
High Rise	N/A	N/A	3	4	7
Total	4,175	8,131	1,736	93	14,241

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

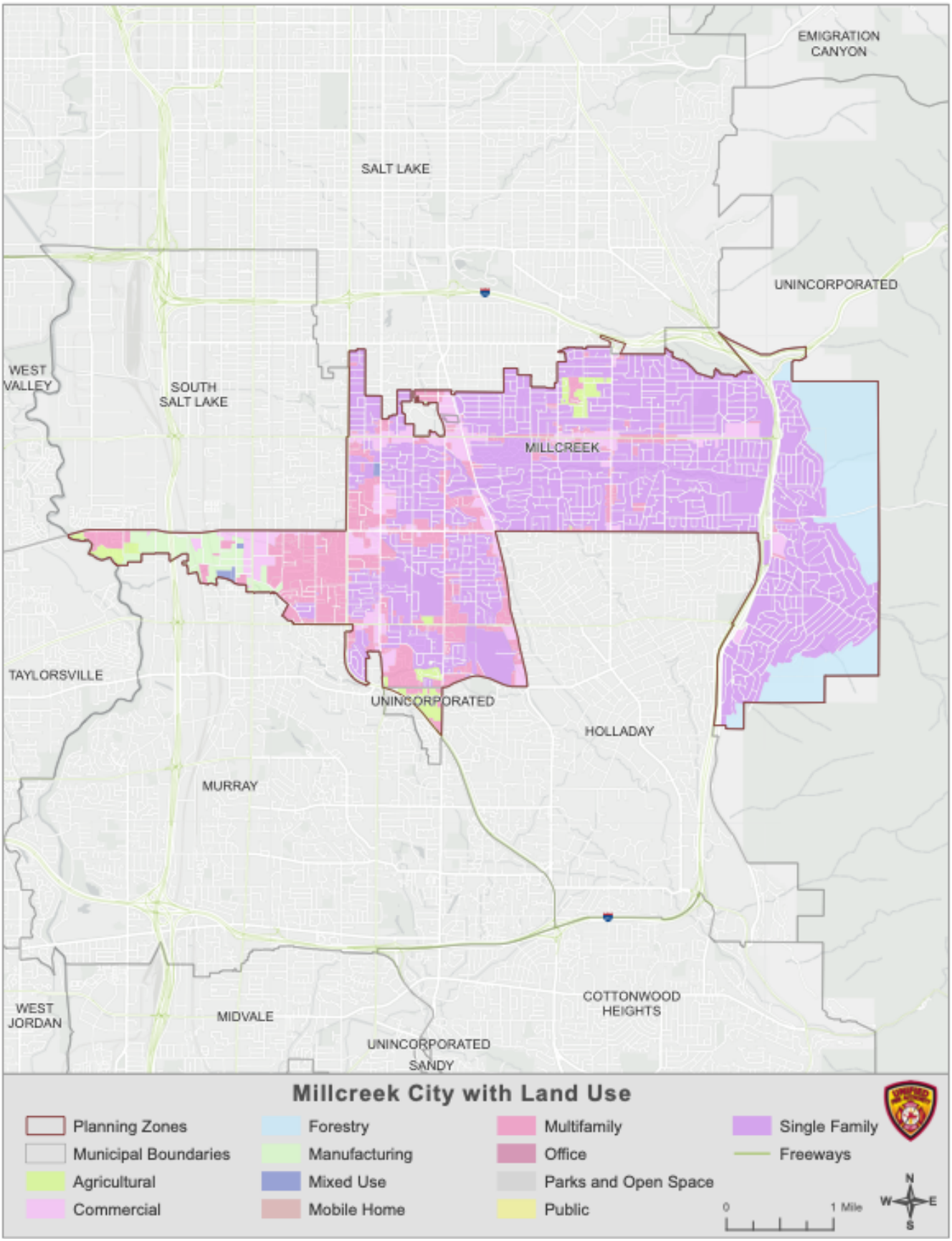
Table 124 – Millcreek City Building Occupancy and Risk Categories

Building Size / Considerations

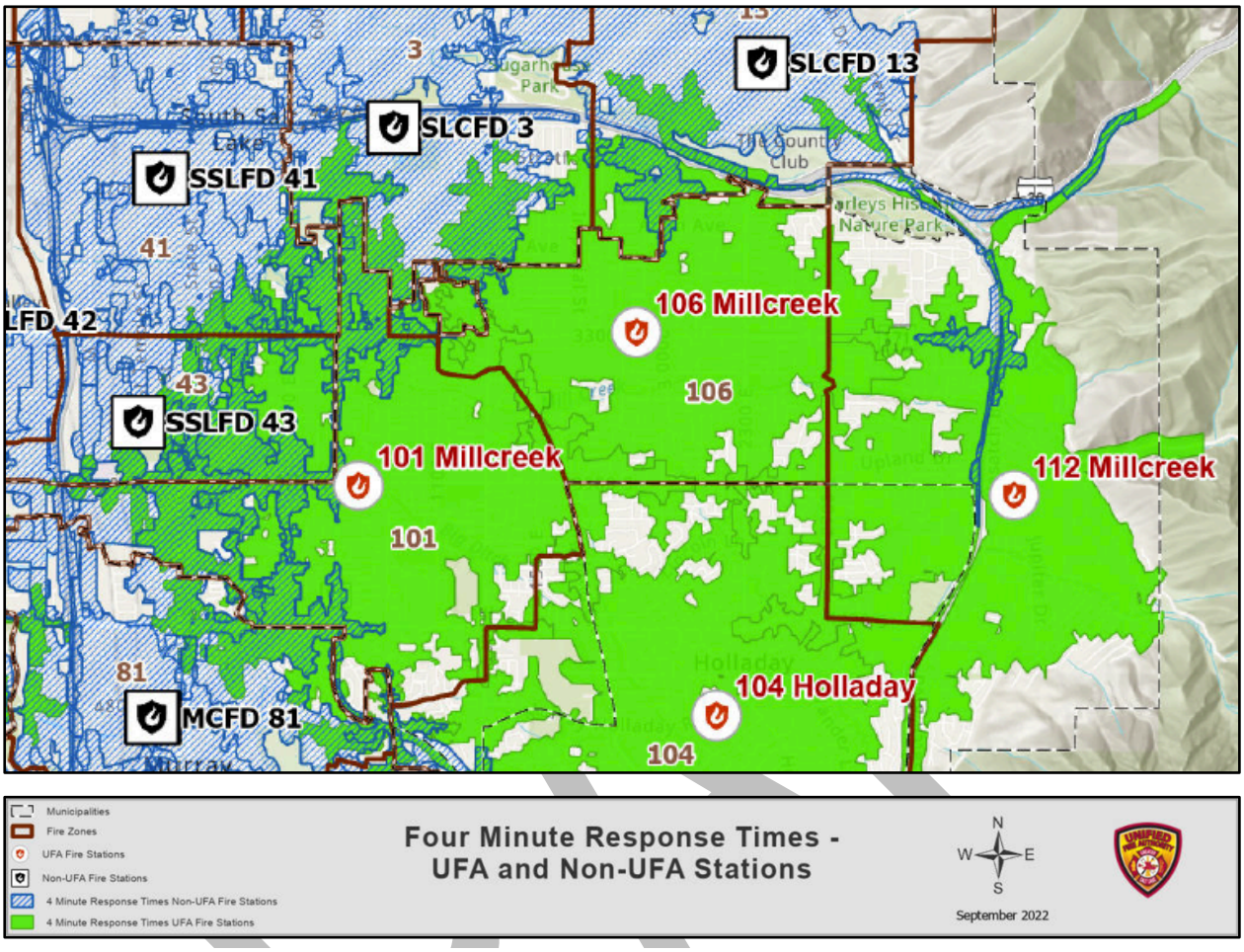
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

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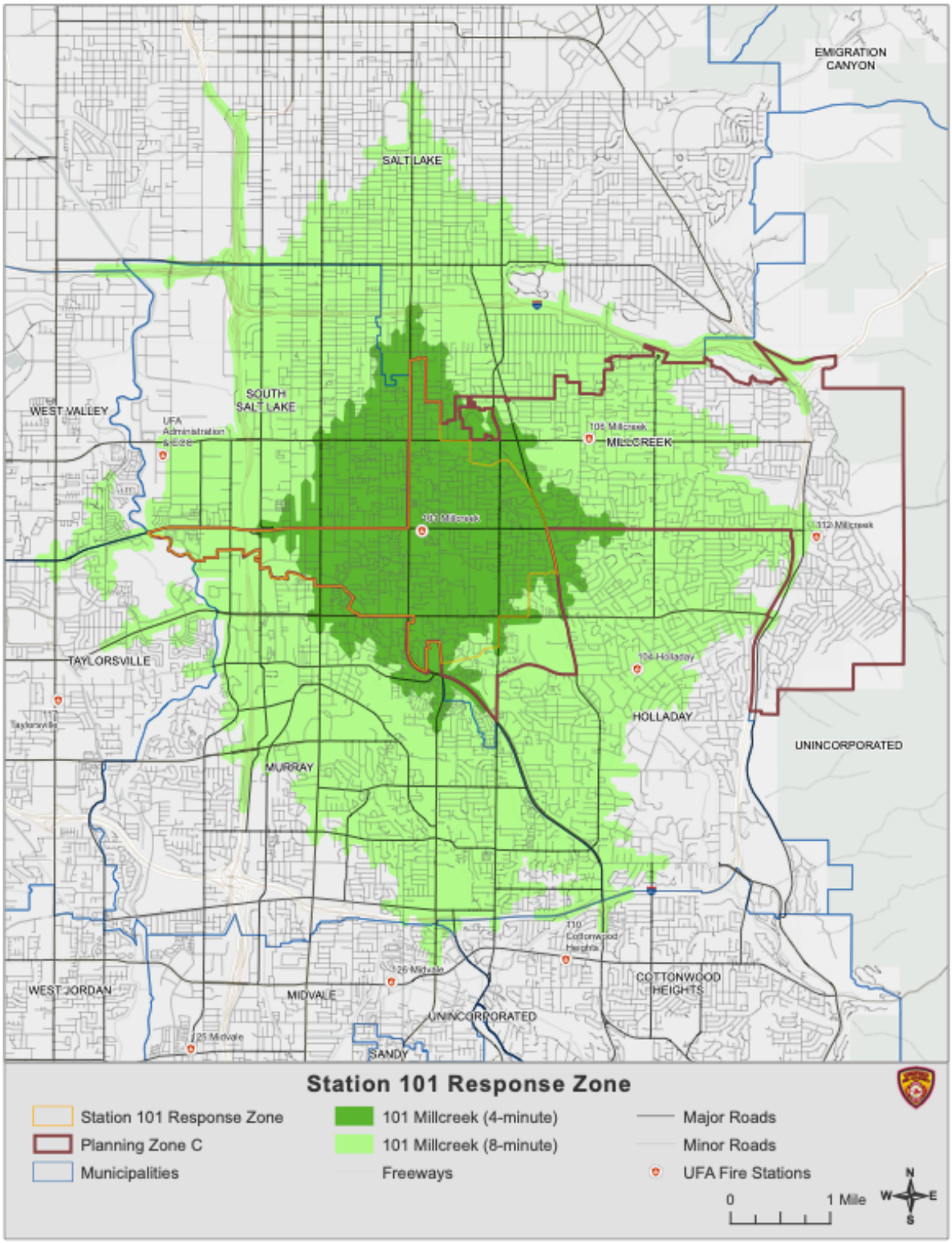


Map 183 - Millcreek City with Land Use

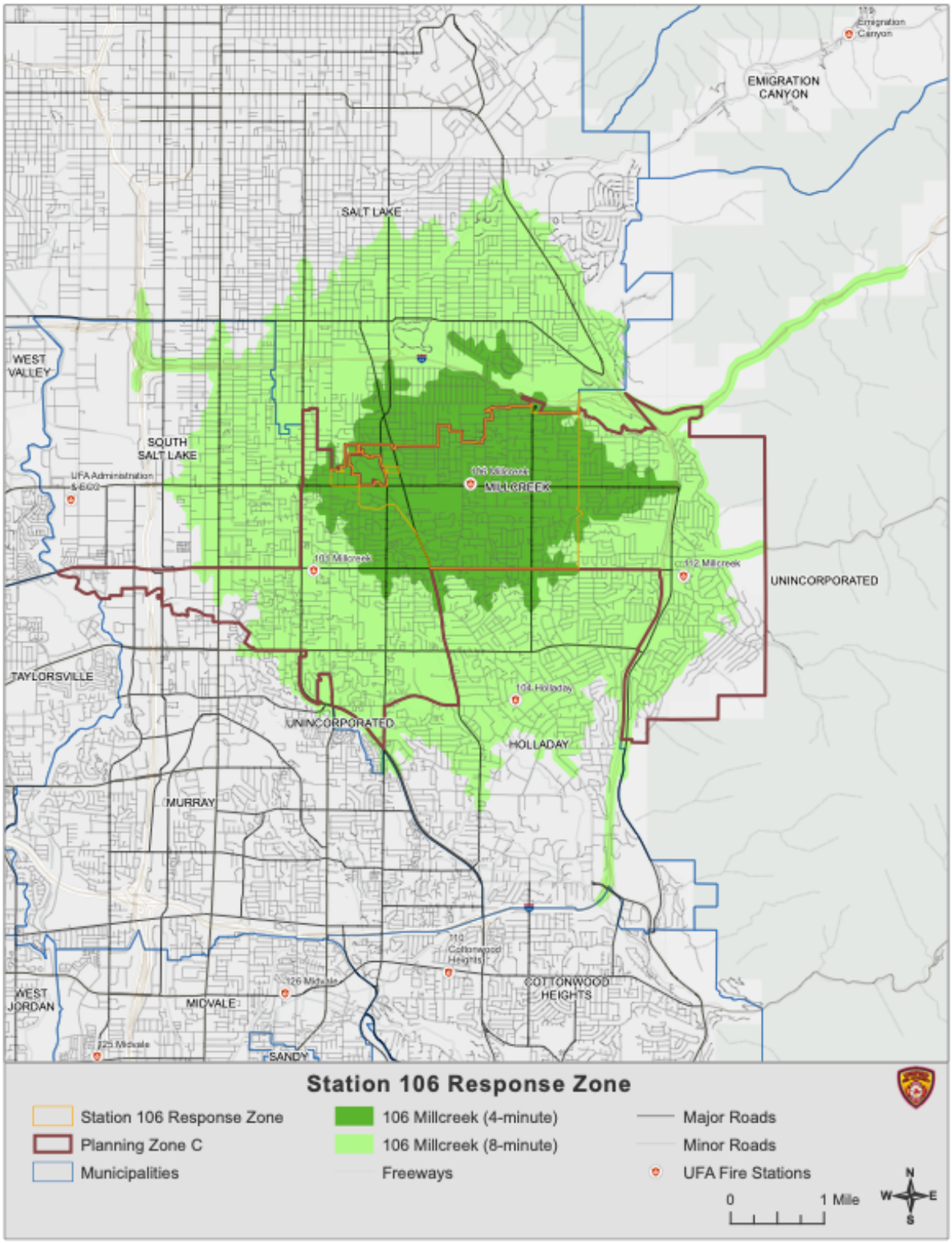


Map 184 - 4-Minute Travel Time, UFA and Aid

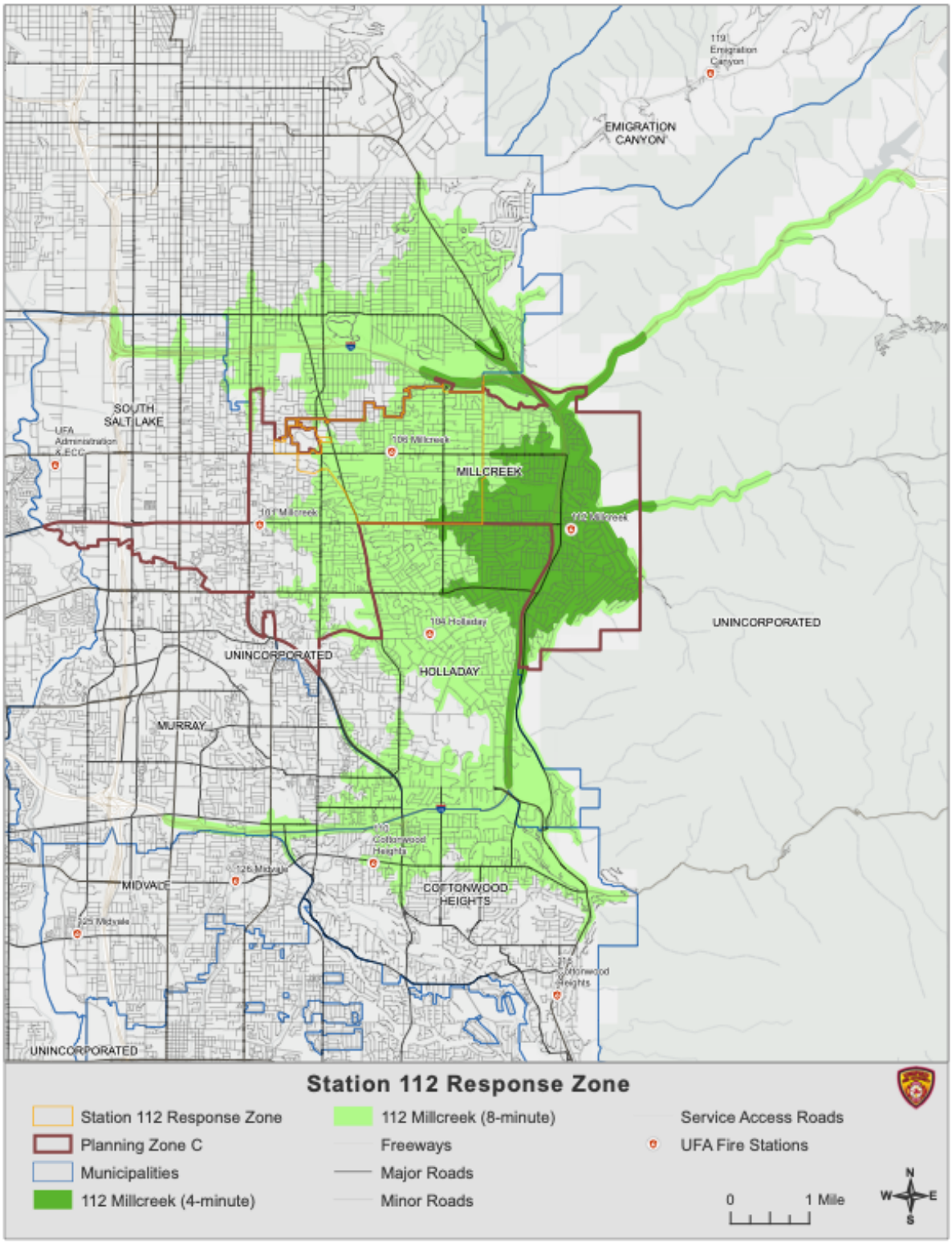
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Map 185 - Station 101 4- and 8-Minute Travel Times



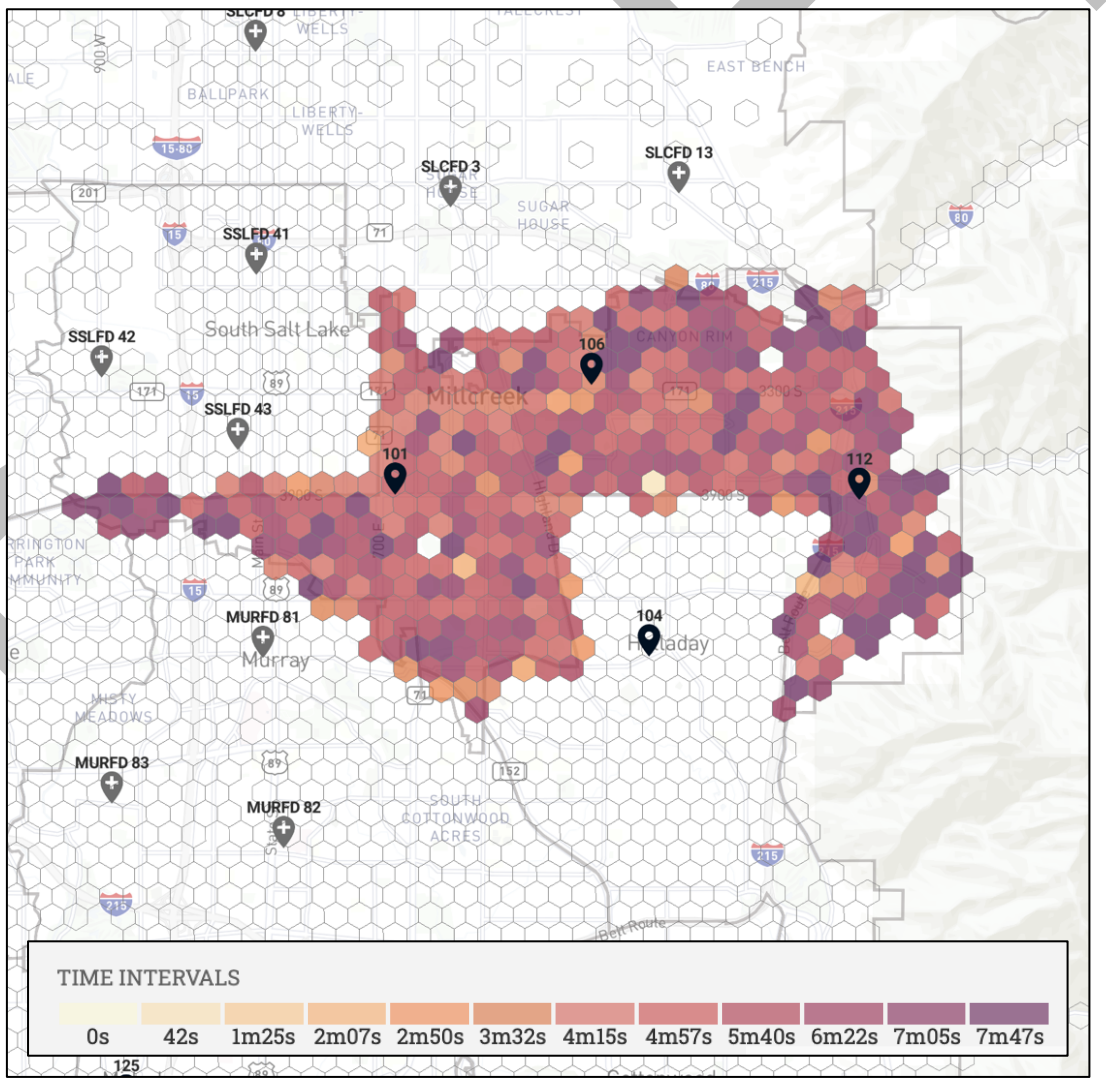
Map 186 - Station 106 4- and 8-Minute Travel Times



Map 187 - Station 112 4- and 8-Minute Travel Times

Millcreek City – First Arriver Travel Times

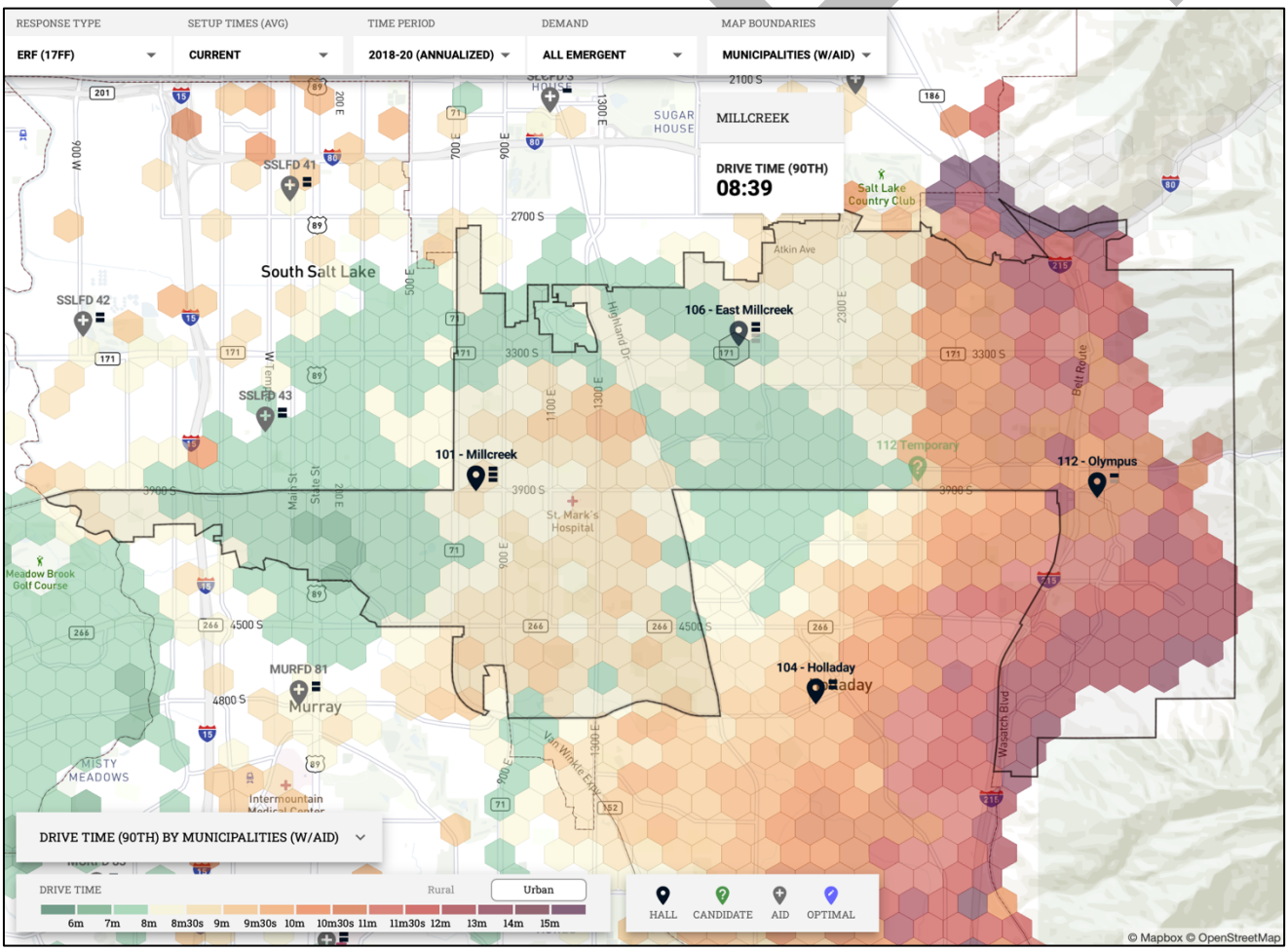
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the lighter colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently within Millcreek City, the 90th percentile drive time for fire is 7:24 and 6:24 for EMS.



Map 188 – Millcreek City Response Times – All Aid

Millcreek City – Residential Fire Effective Response Force (17 FF)

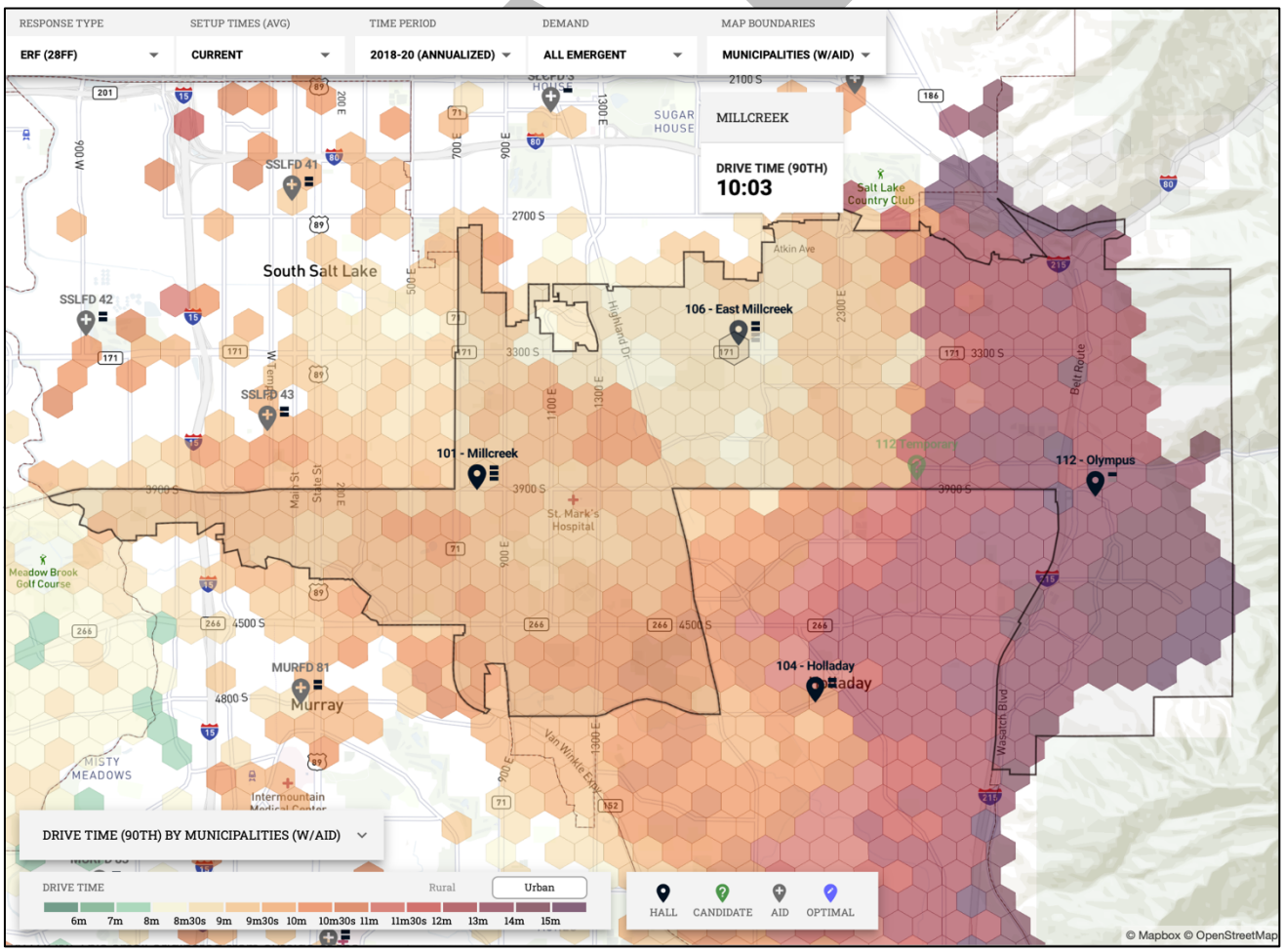
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 8:39.



Map 189 – Millcreek City Response Times – Residential Fire Effective Response Force (17 ERF)

Millcreek City – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 10:03.



Map 190 – Millcreek City Response Times – Commercial Fire Effective Response Force (28 FF)

Millcreek City Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
High	Mod	Mod	Mod	Low	High	Mod	Mod	Mod	High	High	High

Table 125 - Millcreek City Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Millcreek City or directly bordering Millcreek City. I-15 runs through the west side of the city, I-80 runs on the northeast side, and I-215 runs on the west side. Several arterials and state roads also run through Millcreek, with 3300 South, 700 East and State Street. There are sixteen linear miles of Interstate/US Highway, 10.45 linear miles of State Highways, and 241.2 total linear miles of roadway. UTA also runs bus routes and light rail through the city, with the main light rail running on the west side of the city. Millcreek City is in the high-risk category for road infrastructure.

Infrastructure – Water

There are several water districts within Millcreek City, including the Jordan Valley Water Conservancy District and the Mt Olympus Improvement Water District.

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Infrastructure – Dams

There are five identified dams within Millcreek City. Millcreek City is in the moderate-risk category for dam infrastructure.

Natural Hazards

Within Millcreek City, Millcreek Canyon begins and extends into Unincorporated Salt Lake County. Within Millcreek City, there are no concerns with avalanche areas, however there are several areas that Millcreek units respond to that have avalanche as well as backcountry rescue potential within Unincorporated Salt Lake County. Millcreek is in the low-risk category for avalanche. There are several fault lines that run north-south through the city (see Map 8) and are components of the Wasatch Fault. Millcreek City is in the moderate-risk category for both liquefaction and fault lines. There is roughly 44,200 linear feet of fault lines in Millcreek City. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Millcreek City, with an estimated 8,718 URM's, which constitutes about 35% of the overall URM's within UFA's response areas. Millcreek City is in the high-risk category for unreinforced masonry.

Wildland Urban Interface

On the eastern side of Millcreek City, there is risk due to urban interface fires, particularly in the Olympus Cove and East Millcreek areas. Also, there are structures and residences within Millcreek Canyon, which is a concern due to access and egress from Millcreek Canyon through Millcreek City. Millcreek City is in the moderate-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are four identified HazMat/Tier II Sites within Millcreek City, which is in the moderate-risk category.

Hospitals

Millcreek City has one hospital, St Marks, located at 1200 E 3900 S, which is a full-service Level II Trauma Hospital with over 300 beds and is considered a short-term acute care facility. Millcreek City is in the moderate-risk category for hospitals.

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Schools

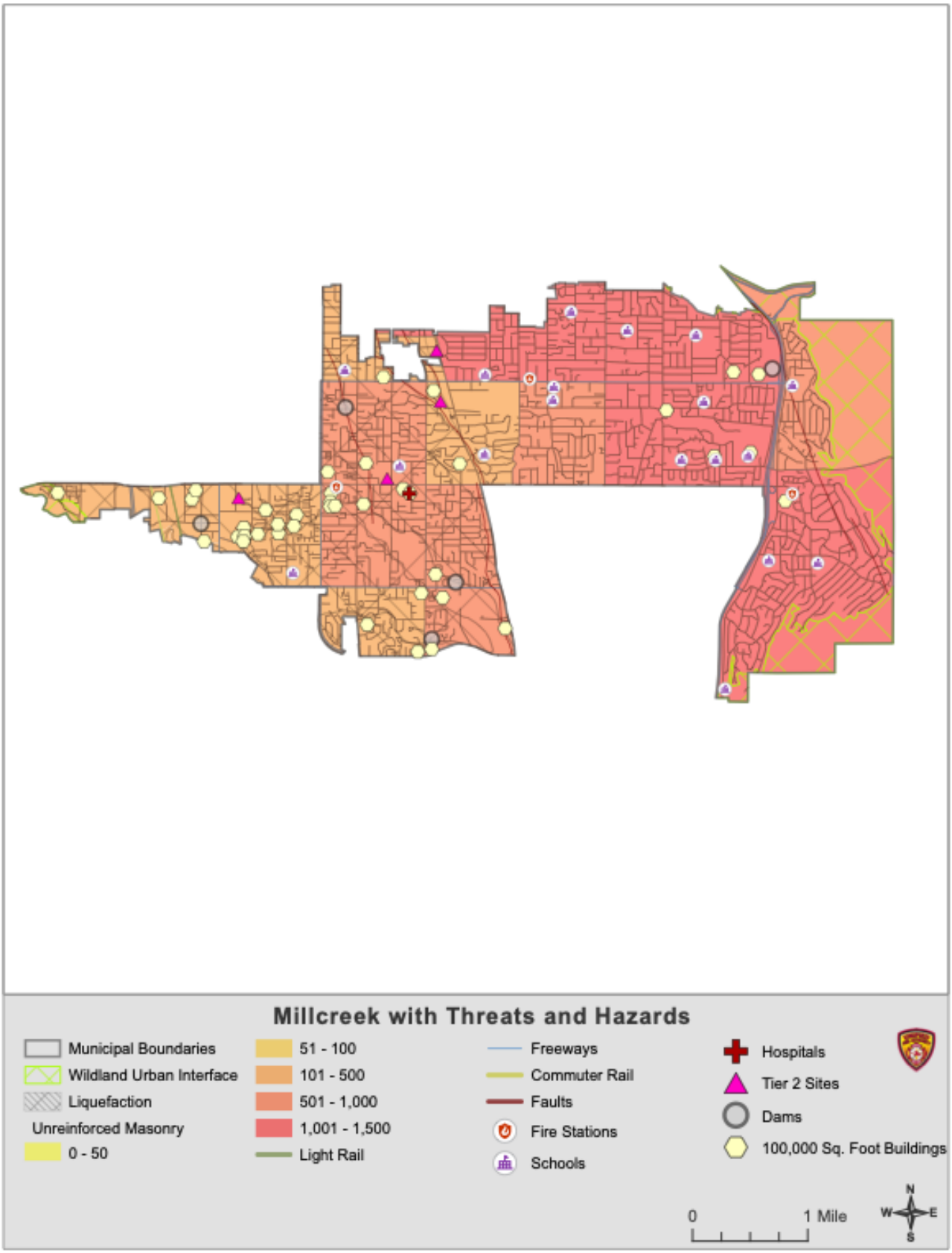
Millcreek City has nine elementary schools, three middle schools, one high school, and two private/charter schools within city boundaries, which places it in the high-risk category.

Target Hazards – Structures

Some of the target hazard occupancies in Millcreek include:

- St. Marks Hospital at 1200 East 3900 South
- Home Depot at 3398 South Highland Drive
- Specialty Lens at 3955 South Howick Street
- Morgro at 145 West Central Avenue
- Canyon Rim Care Center at 2730 East 3300 South

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Map 191 - Millcreek City with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $3,254,602.00 of property loss and a total estimate of $962,912.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has a swift water team, ice rescue team, as well as a dive rescue team. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house Water Rescue Companies.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Riverton City

Community Risk Assessment



RIVERTON
UTAH

UNIFIED FIRE AUTHORITY
GREATER
SALT LAKE

Riverton City Planning Zone

UFA has three stations within the Riverton City Planning Zone covering a total of 12.58 square miles with a population of 45,285 and responded to 2,088 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Riverton City	45,285	10.04%	12.58	3,600	Urban

Riverton City has increased its population from 38,752 in 2010 to 55,144 in 2020, showing an increase of 14.43% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 74 demonstrates that Riverton could grow to 58,036 by the year 2040.

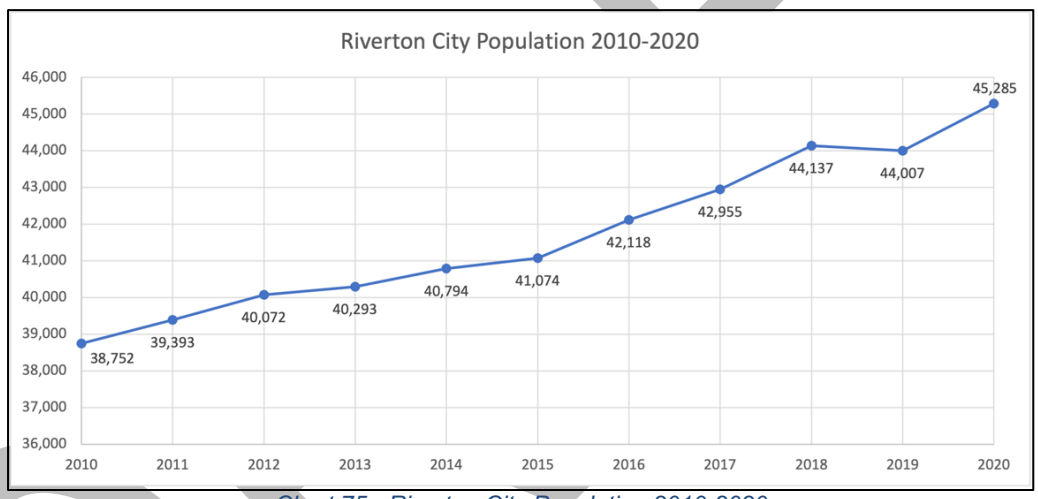


Chart 75 - Riverton City Population 2010-2020

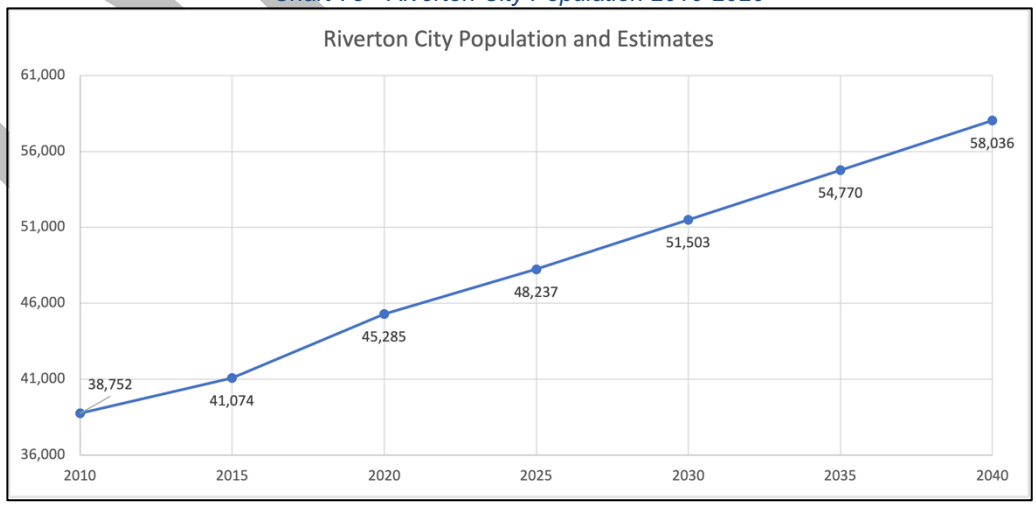


Chart 76 - Riverton City Population and Estimates 2010-2040

Riverton City Station Information

Station 120 information:

- Owner – Riverton City
- Opened – 1988/1999
- Address – 13000 South 2700 West
- Staffing and Apparatus –
  - MA 120 (2 persons)
  - Wildland Division Headquarters



Image 23 – Riverton City Station 120

Station 121 information:

- Owner – Riverton City
- Opened – 2006
- Address – 4146 West 12600 South
- Staffing and Apparatus –
  - Type 1, ML 121 (4 persons)
  - MA 121 (2 persons)
  - Heavy Rescue (cross-staffed)
  - Battalion Chief 12 (1 person)



Image 24 – Riverton City Station 121

Station 124 information:

- Owner – Riverton City
- Opened – 2013
- Address – 12662 South 1300 West
- Staffing and Apparatus –
  - Type 1, ME 124 (4 persons)
  - HazMat 124 (cross-staffed)



Image 25 – Riverton City Station 124

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Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to Riverton City are:

- UFA Station 103 (Herriman City), with a four-person medic engine and a two-person peak-load medic ambulance
- UFA Station 123 (Herriman City), with a four-person medic engine
- Bluffdale Station 91, with a two-person medic engine and a two-person medic ambulance
- Bluffdale Station 92, with a two-person medic engine and a two-person medic ambulance
- South Jordan Station 61, with a four-person medic ladder and a two-person medic ambulance
- South Jordan Station 62, with a four-person engine and a two-person medic ambulance
- South Jordan Station 63, with a four-person engine and a two-person medic ambulance
- South Jordan Station 64, with a four-person engine and a two-person medic ambulance
- West Jordan Station 52, with a three-person engine and a two-person medic ambulance
- West Jordan Station 53, with a three-person engine and a two-person medic ambulance
- West Jordan Station 54, with a three-person engine and a two-person medic ambulance
- West Jordan Station 55, with a three-person engine and a two-person medic ambulance

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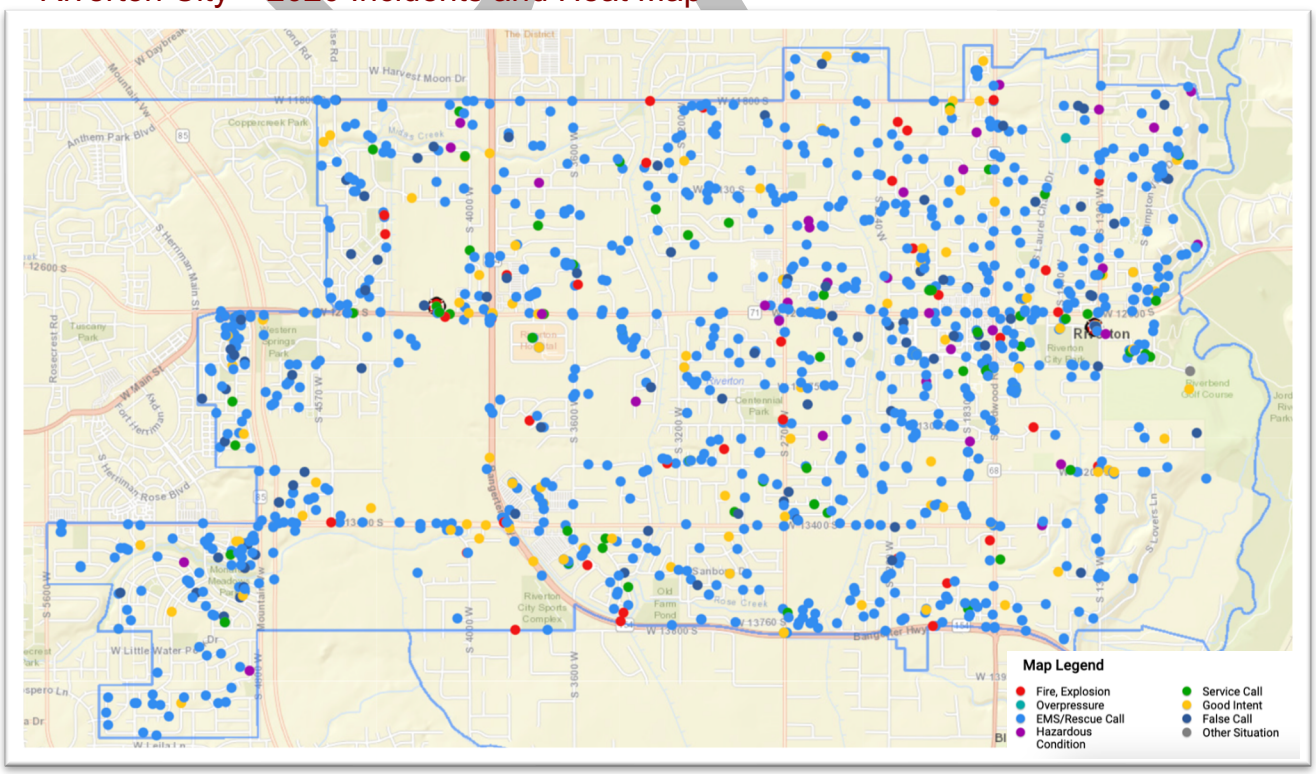
Riverton City – Incidents by Dispatch Type

The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

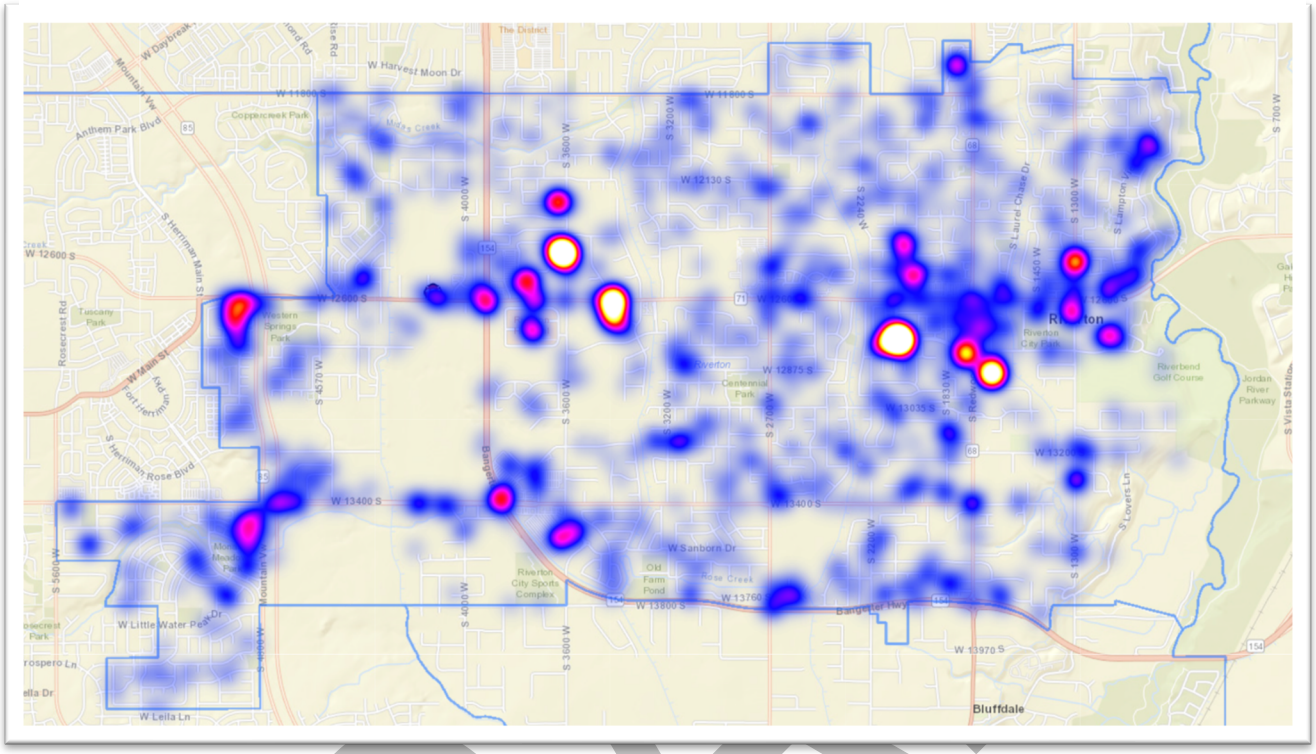
	CY 2020	CY 2019	CY 2018
Fire Suppression	41	26	35
EMS	1,222	1,205	1,176
Hazardous Materials	36	34	32
Service Calls	105	106	76
Good Intent	350	222	184
False Calls	102	128	122
Other (Misc., Flood, Overpressure)	3	6	5
Total	1,860	1,727	1,630
Cancelled	228	126	126
Overall Total	2,088	1,853	1,756

Table 126 – Riverton City Call Type

Riverton City – 2020 Incidents and Heat Map



Map 192 - Riverton City Incident Calls by Call Type



Map 193 - Riverton City Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8

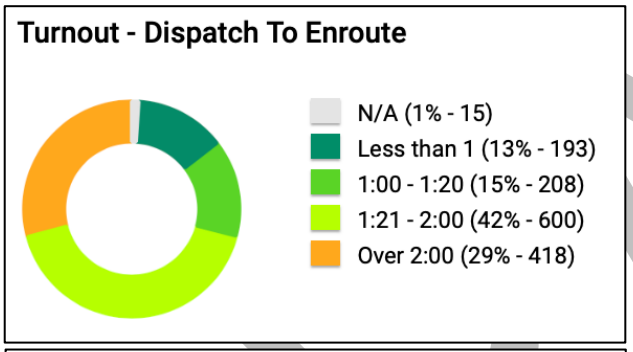
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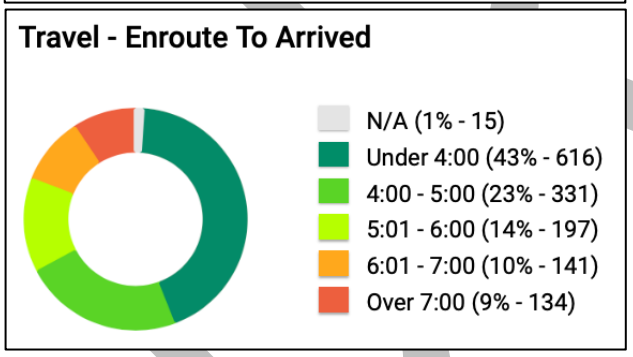
minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

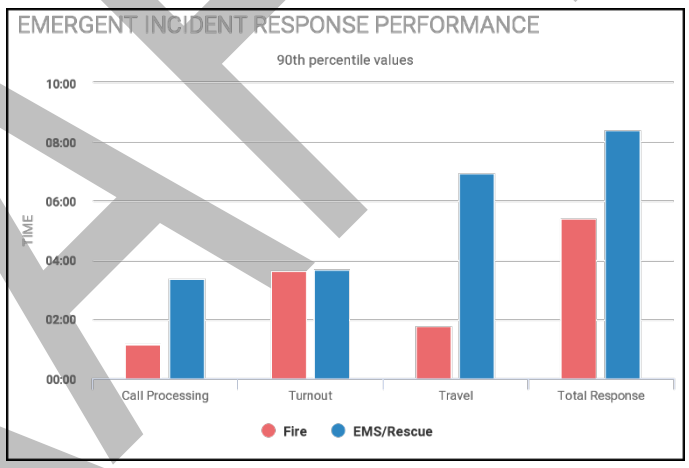
– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

Riverton City – 2020 Dispatch and Response Times



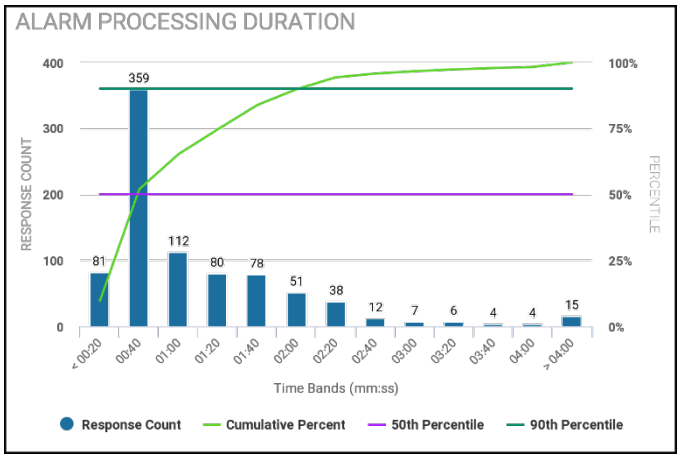


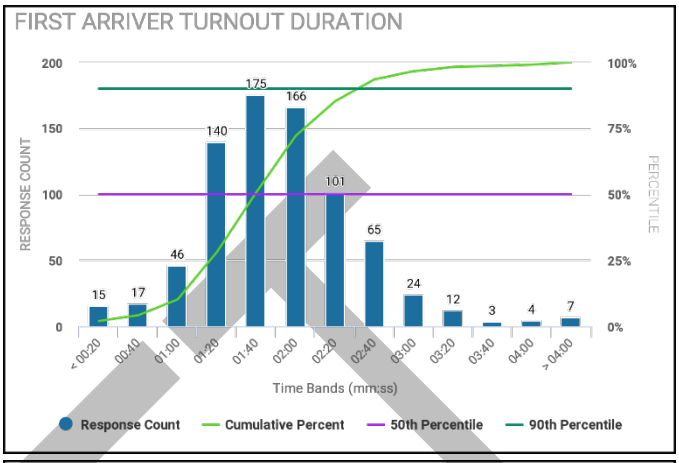


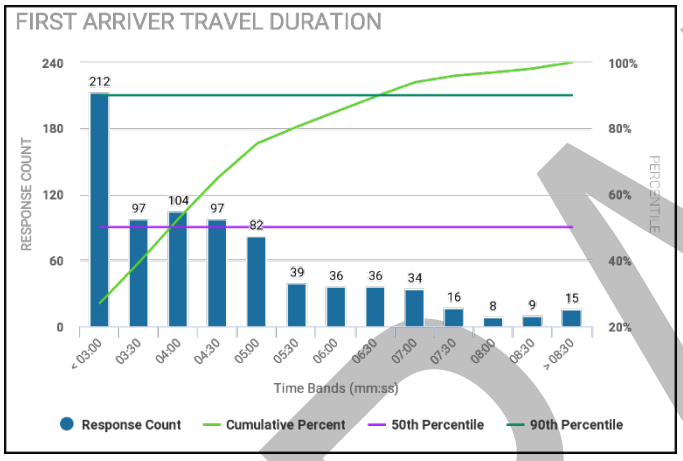
Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Riverton	2:06	2:36	7:38	10:12	2:00	2:26	6:25	8:57
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

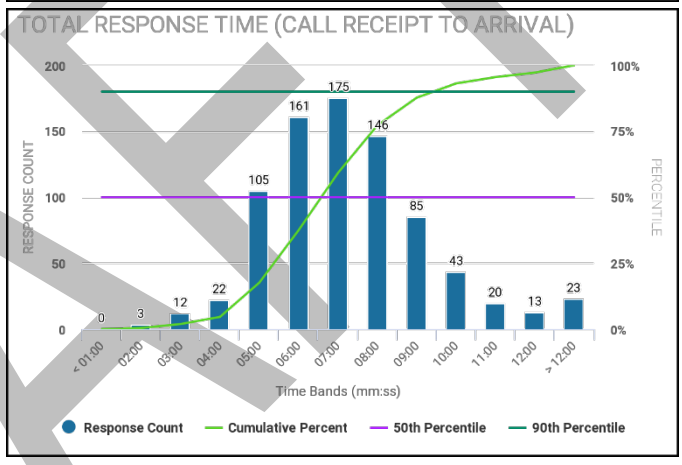
Table 127 – Riverton City 2020 Emergent Response Times, 90th percentile values

Riverton City – 2020 Turnout and Travel Times









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The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Riverton City. The 90th percentile for alarm processing for fire responses was 2:06 and 2:00 for EMS, the 90th percentile turnout time was 2:36 for fire responses and 2:26 for EMS responses. The 90th percentile travel time was 7:38 for fire responses and 6:25 for EMS. The 90th percentile total response time was 10:12 for fire and 8:57 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

Riverton City – 2020 Incidents by Time of Day

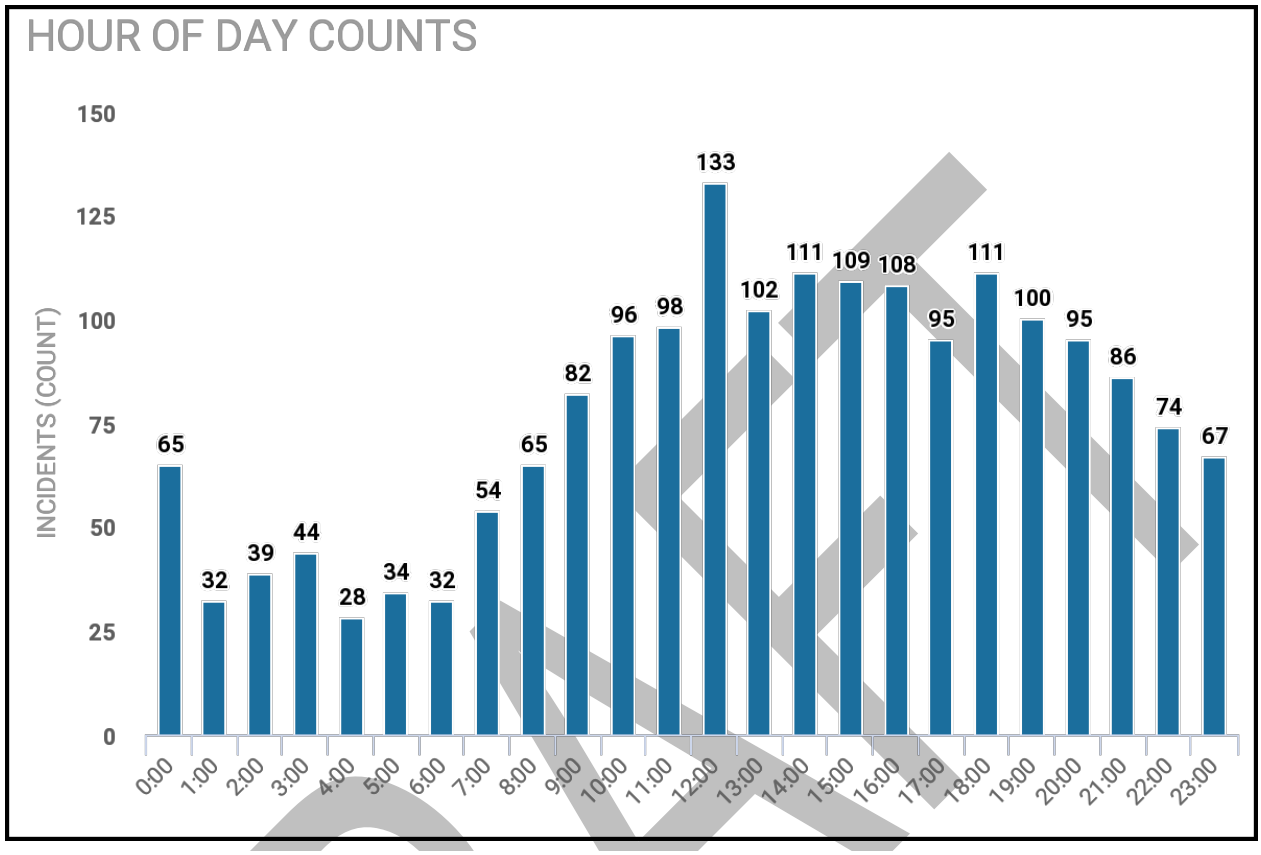


Chart 77 – Riverton City 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Riverton City for all service calls. This chart illustrates that the greatest demand for service delivery begins to increase at 7:00 AM and starts to decrease at 8:00 PM.

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Riverton City – 2020 Incidents by Day of Week

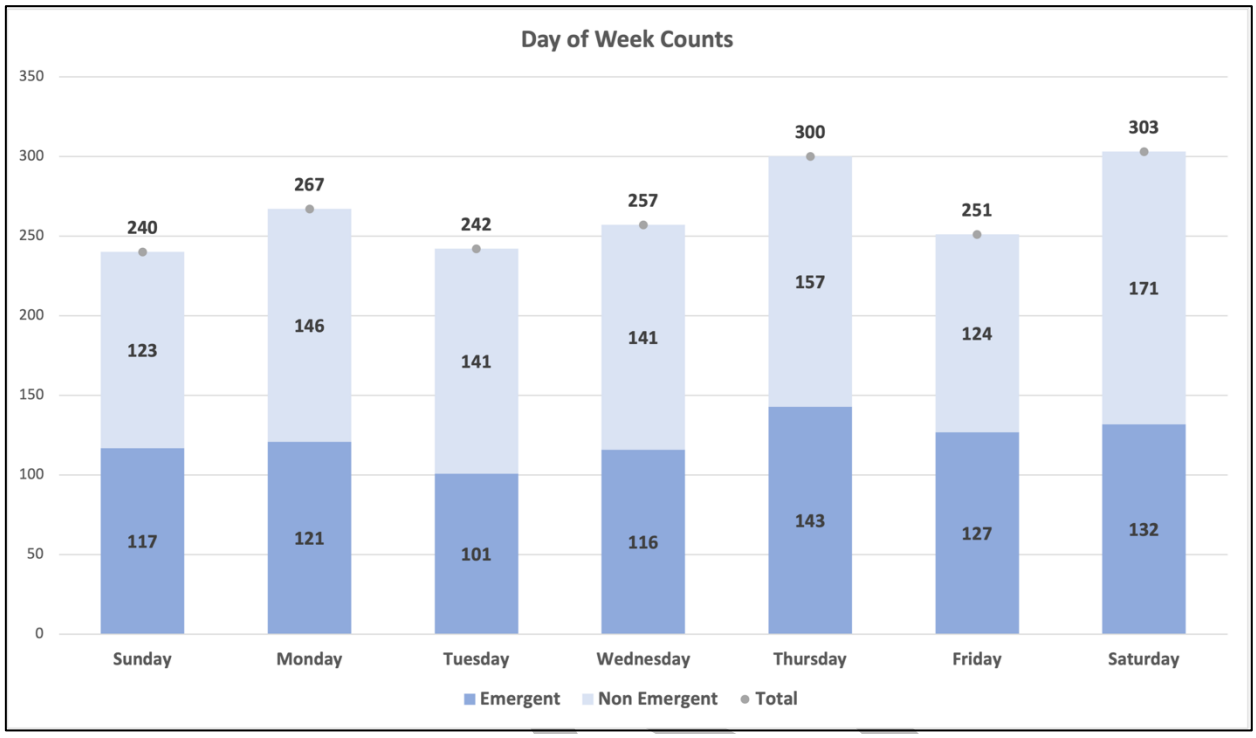


Chart 78 - Riverton City Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls beginning Thursday. The peak volume for all calls in Riverton City occurs on Saturday.

Riverton City – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	664	705	584
BLS Transports	800	732	808
Scene Release	99	72	309
Public Assistance	22	5	16
EMS Total Calls	1,563	1,509	1,701
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 128 – Riverton City EMS Calls

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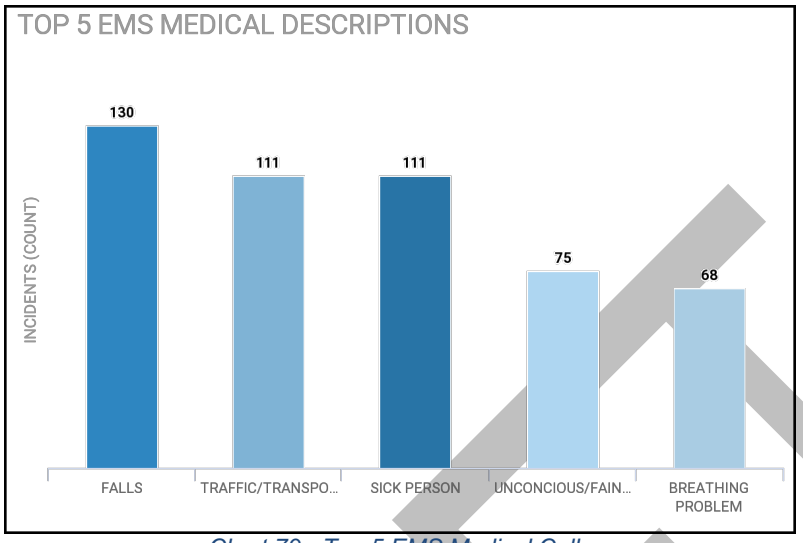


Chart 79 - Top 5 EMS Medical Calls

Riverton City – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	22	51.2%
Natural Vegetation Fire	9	20.9%
Outside Rubbish Fire	7	16.3%
Vehicle Fire	2	4.7%
Special Outside Fire	2	4.7%
Fire, Other	1	2.3%
Total	43	100%

Table 129 – Riverton City 2020 Incidents by Dispatch Type

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Riverton City – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	13	2	11	0	26
Commercial/Industrial	5	5	6	2	18
Educational	6	1	5	1	13
Government	0	0	1	0	1
Healthcare	1	0	2	0	3
Hazardous	Unknown	Unknown	Unknown	Unknown	77*
Storage	0	0	0	0	0
Residential	951	7,080	2,069	7	10,107
Residential – Multi Unit	20	16	12	3	51
High Rise	N/A	N/A	0	1	1
Total	996	7,104	2,106	14	10,297

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

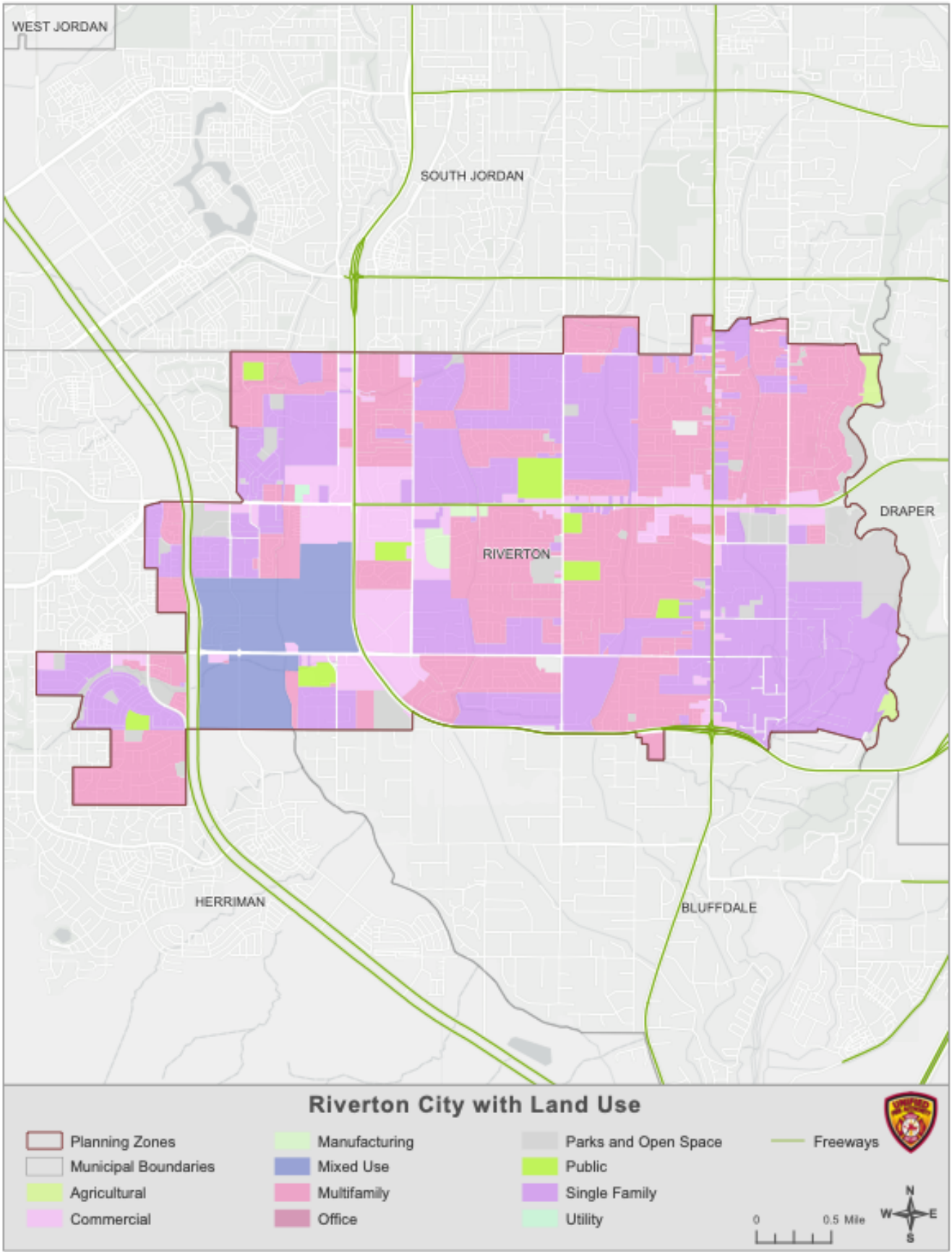
Table 130 – Riverton City Building Occupancy and Risk Categories

Building Size / Considerations

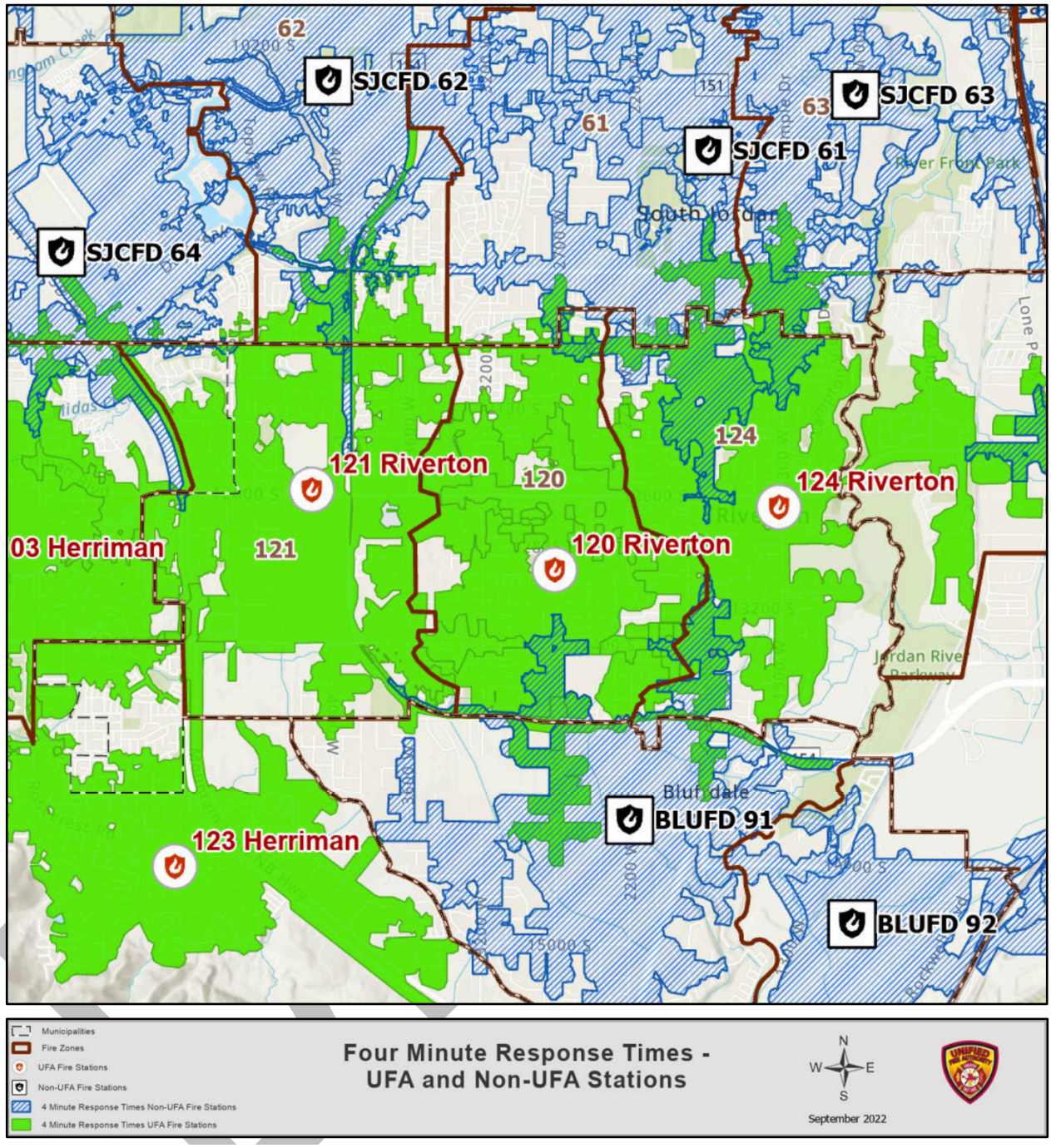
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

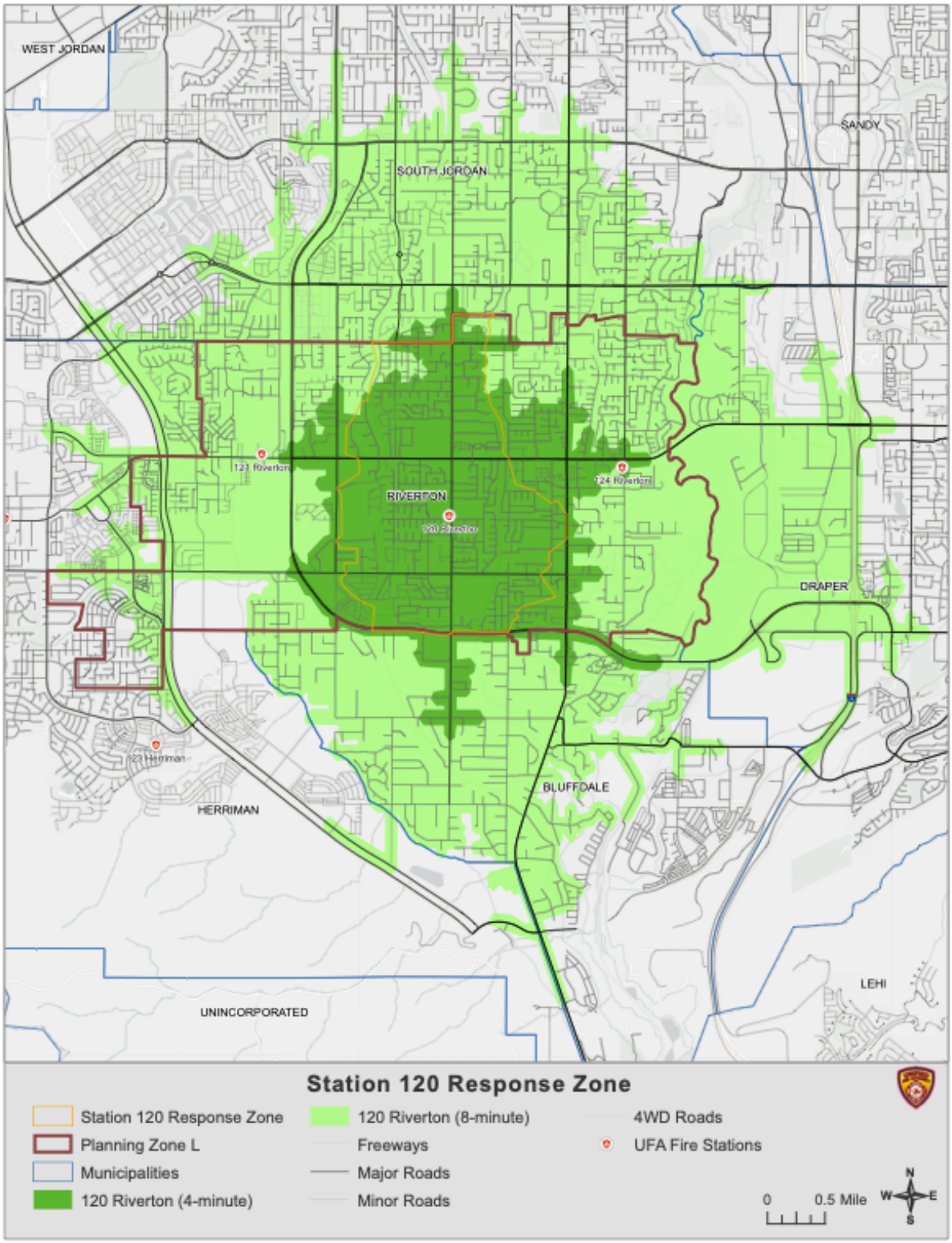
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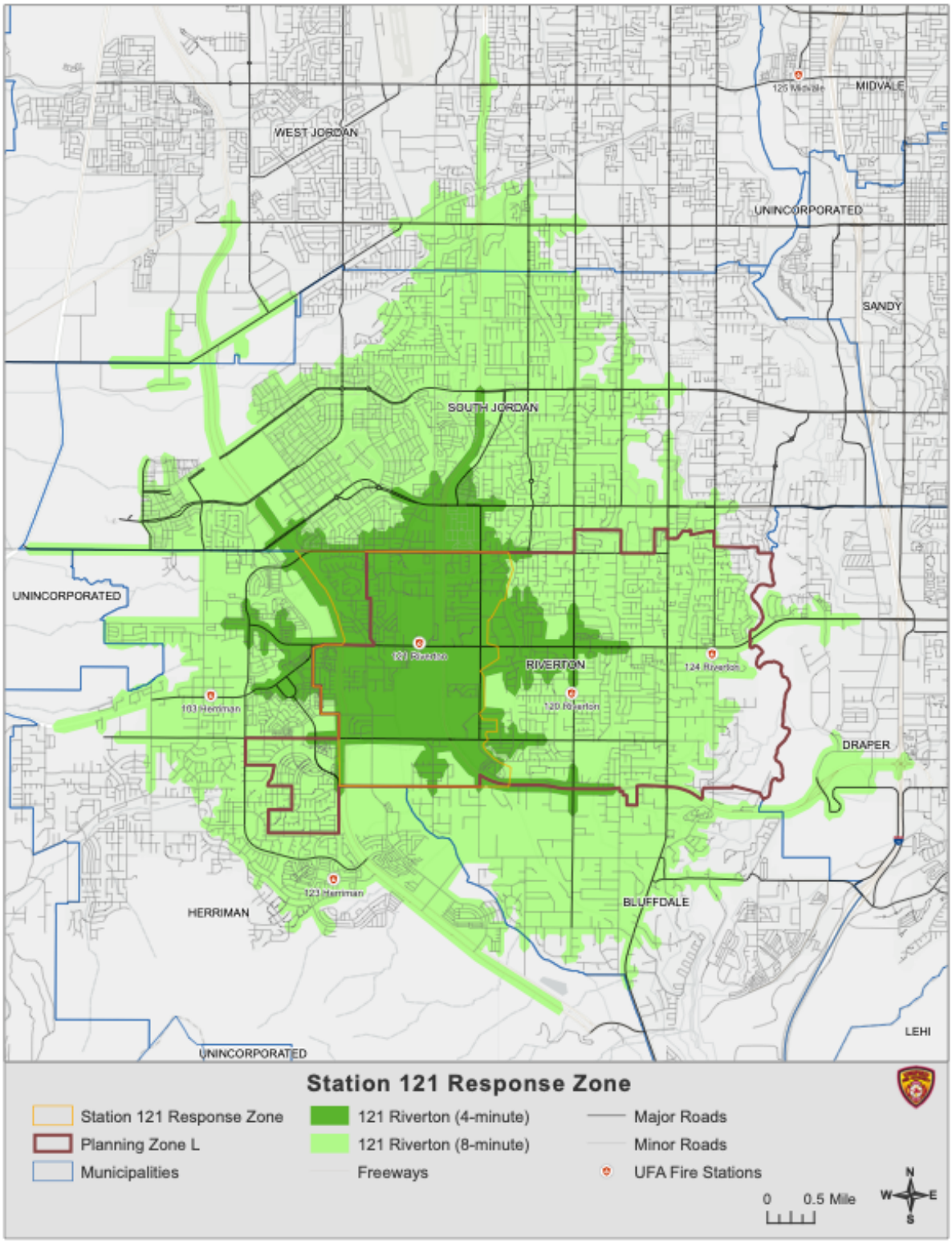
Map 194 - Riverton City with Land Use



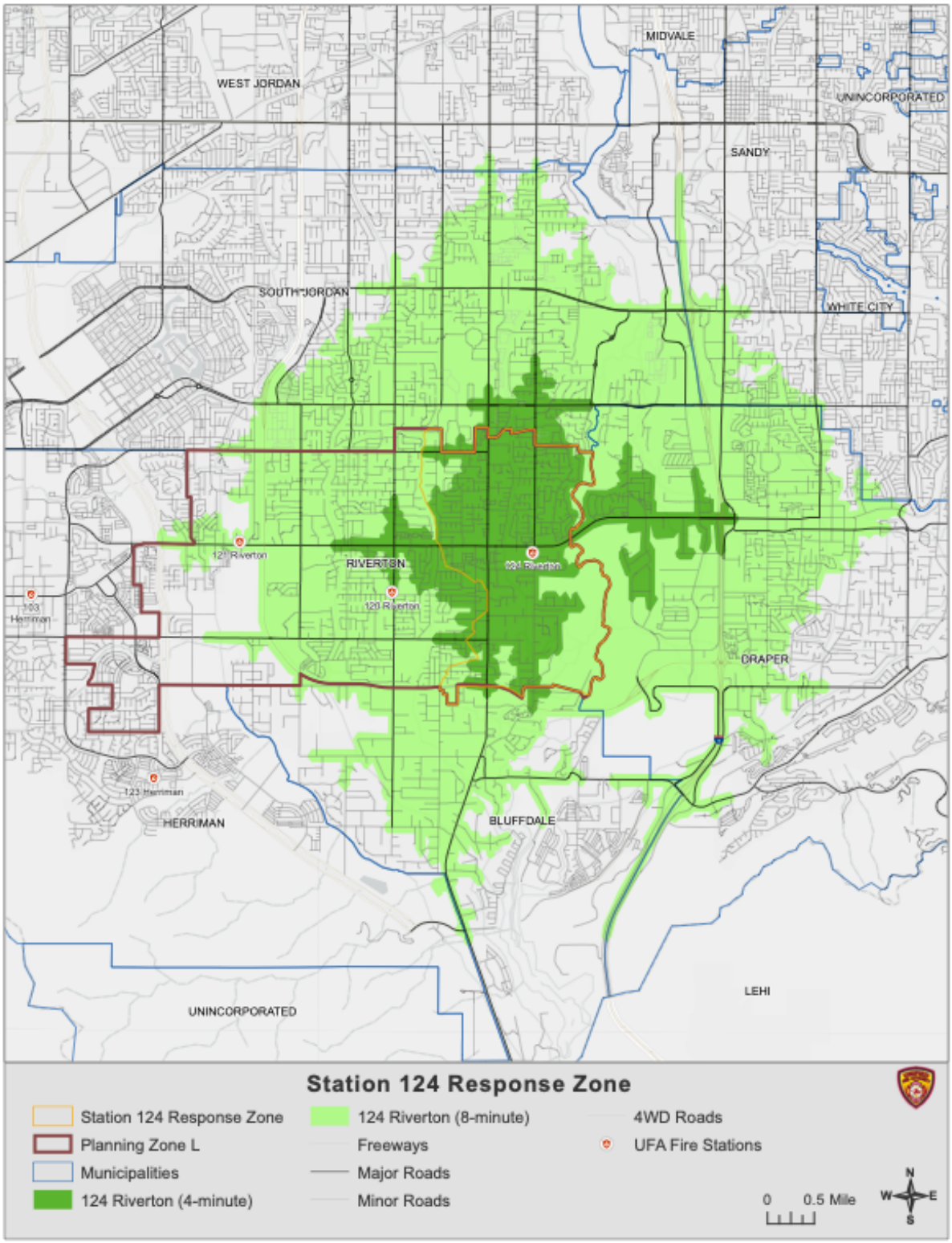
Map 195 - 4-Minute Travel Time, UFA and Aid



Map 196 - Station 120 4- and 8-Minute Travel Times



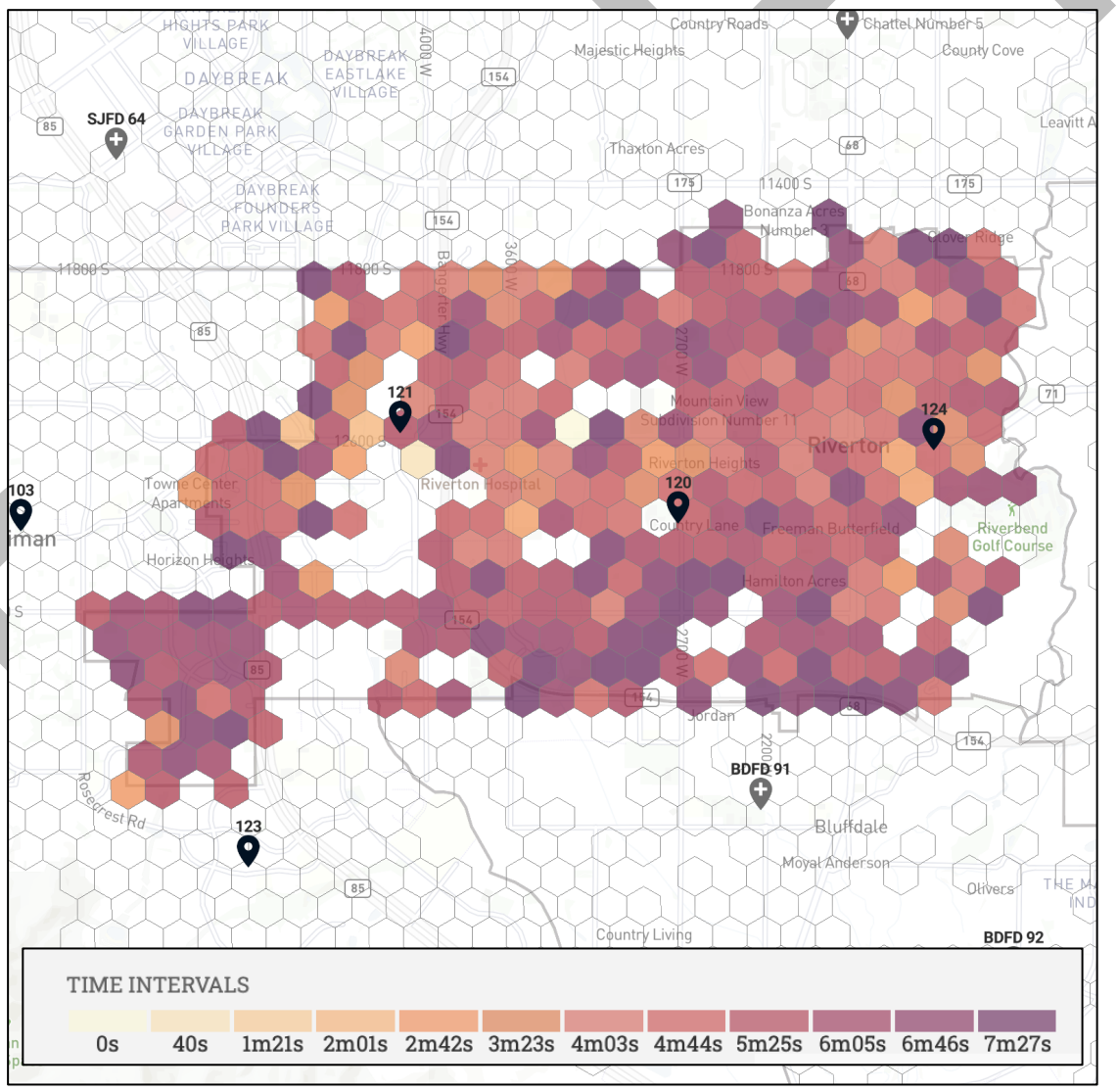
Map 197 - Station 121 4- and 8-Minute Travel Times



Map 198 - Station 124 4- and 8-Minute Travel Times

Riverton City – First Arriver Travel Times

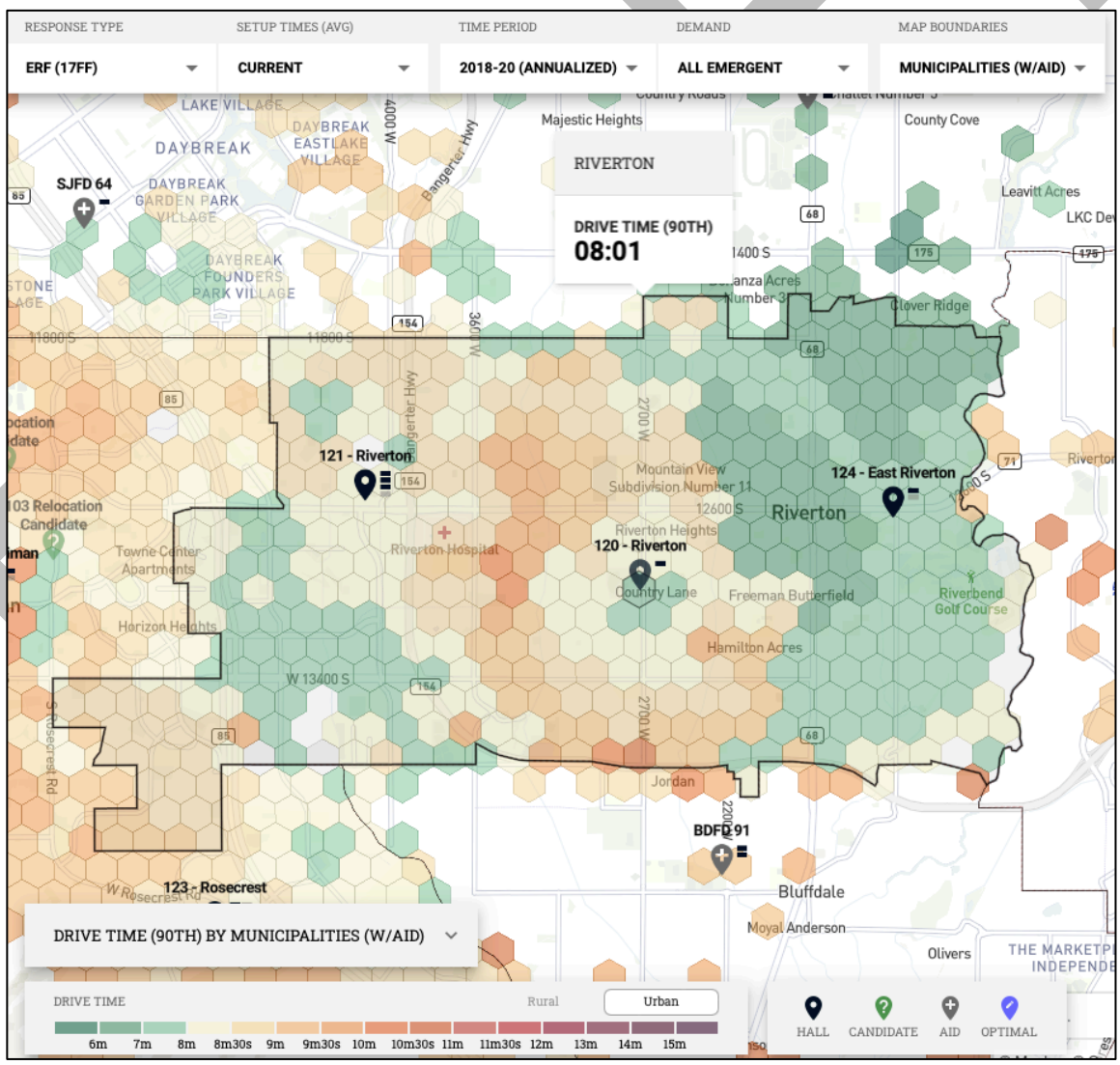
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the lighter colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently within Riverton City, the 90th percentile drive time is 7:38 for fire and 6:25 for EMS.



Map 199 – Riverton City Response Times – All Aid

Riverton City – Residential Fire Effective Response Force (17 FF)

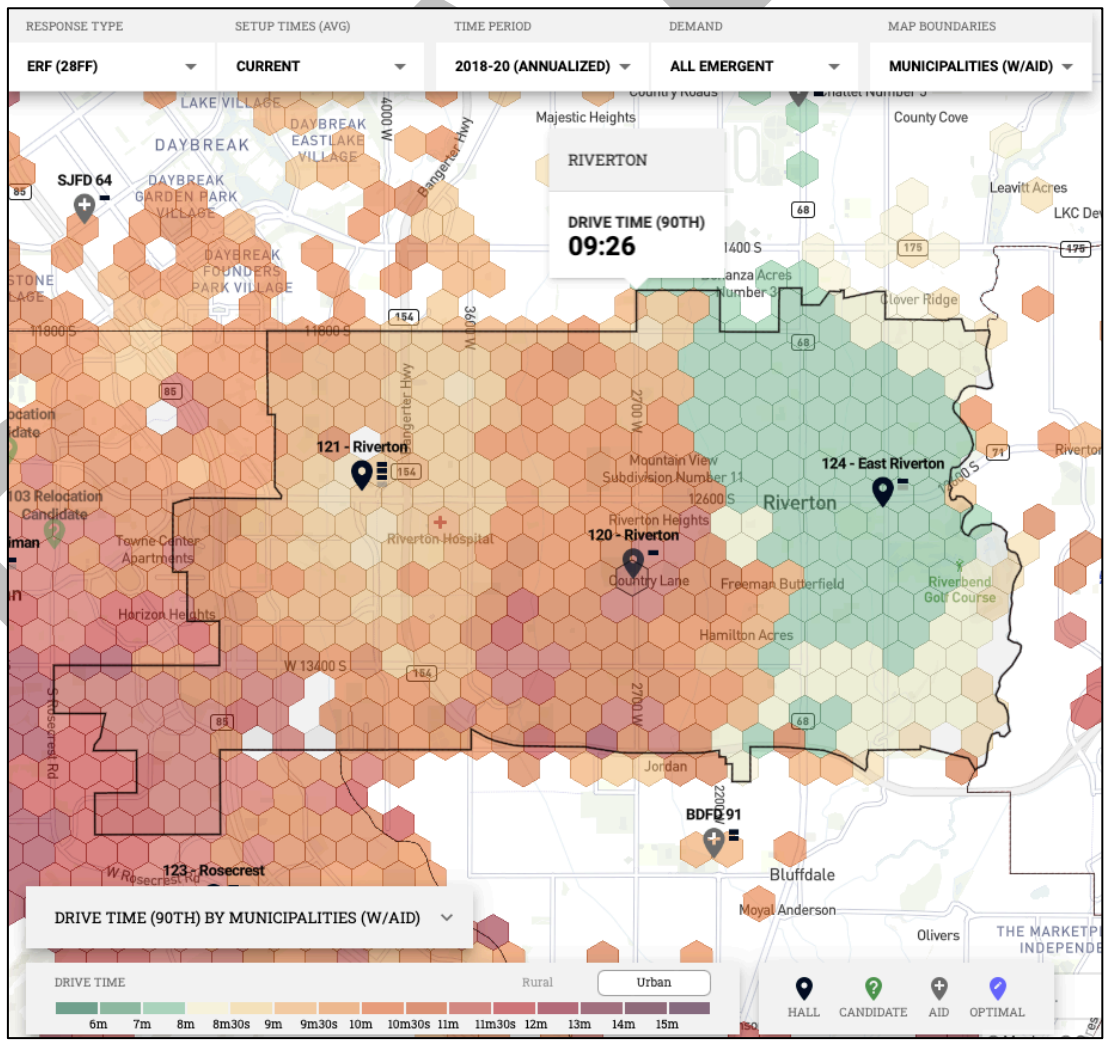
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 8:01.



Map 200 – Riverton City Response Times – Residential Fire Effective Response Force (17 ERF)

Riverton City – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 09:26.



Map 201 – Riverton City Response Times – Commercial Fire Effective Response Force (28 FF)

Riverton City Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
Mod	Mod	Low	Low	Low	Mod	Low	Mod	Mod	High	Mod	High

Table 131 - Riverton City Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Riverton City. Bangerter Highway (SR154) runs north-south through the city and on the south border of the east-side of the city, the Mountain View Corridor (SR85) runs on the north-south on the west side, and SR71 runs through the middle of the city. Several arterials and state roads also run through Riverton, with 13400 South, 12600 South, 3600 West, 2700 West and Redwood Road. There are zero linear miles of Interstate/US Highway, 17.85 linear miles of State Highways, and 188.3 total linear miles of roadway. Millcreek City is in the moderate-risk category for road infrastructure.

Infrastructure – Water

There is one water district within Riverton City, the Jordan Valley Water Conservancy District.

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Infrastructure – Dams

There are four identified dams within Riverton City. Riverton City is in the moderate-risk category for dam infrastructure.

Natural Hazards

Within Riverton City, there are no concerns with avalanche areas. Riverton is in the low-risk category for avalanche. There are no identified fault lines that run through the city (see Map 8) and are components of the Wasatch Fault. Riverton City is in the low-risk category for both liquefaction and fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Riverton City, with an estimated 441 URM's, which constitutes about 1.8% of the overall URM's within UFA's response areas. Riverton City is in the low-risk category for unreinforced masonry.

Wildland Urban Interface

The largest concern of a Wildland Urban Interface area within Riverton City is in the river bottoms along the Jordan River. Riverton City is in the moderate-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are six identified HazMat/Tier II Sites within Riverton City, which is in the moderate-risk category.

Hospitals

Riverton City has one hospital, Riverton Hospital, located at 3741 W 12600 S. Riverton City is in the moderate-risk category for hospitals.

Schools

Riverton City has eight elementary schools, two middle schools, two high schools, and one private/charter schools within city boundaries, which places it in the high-risk category.

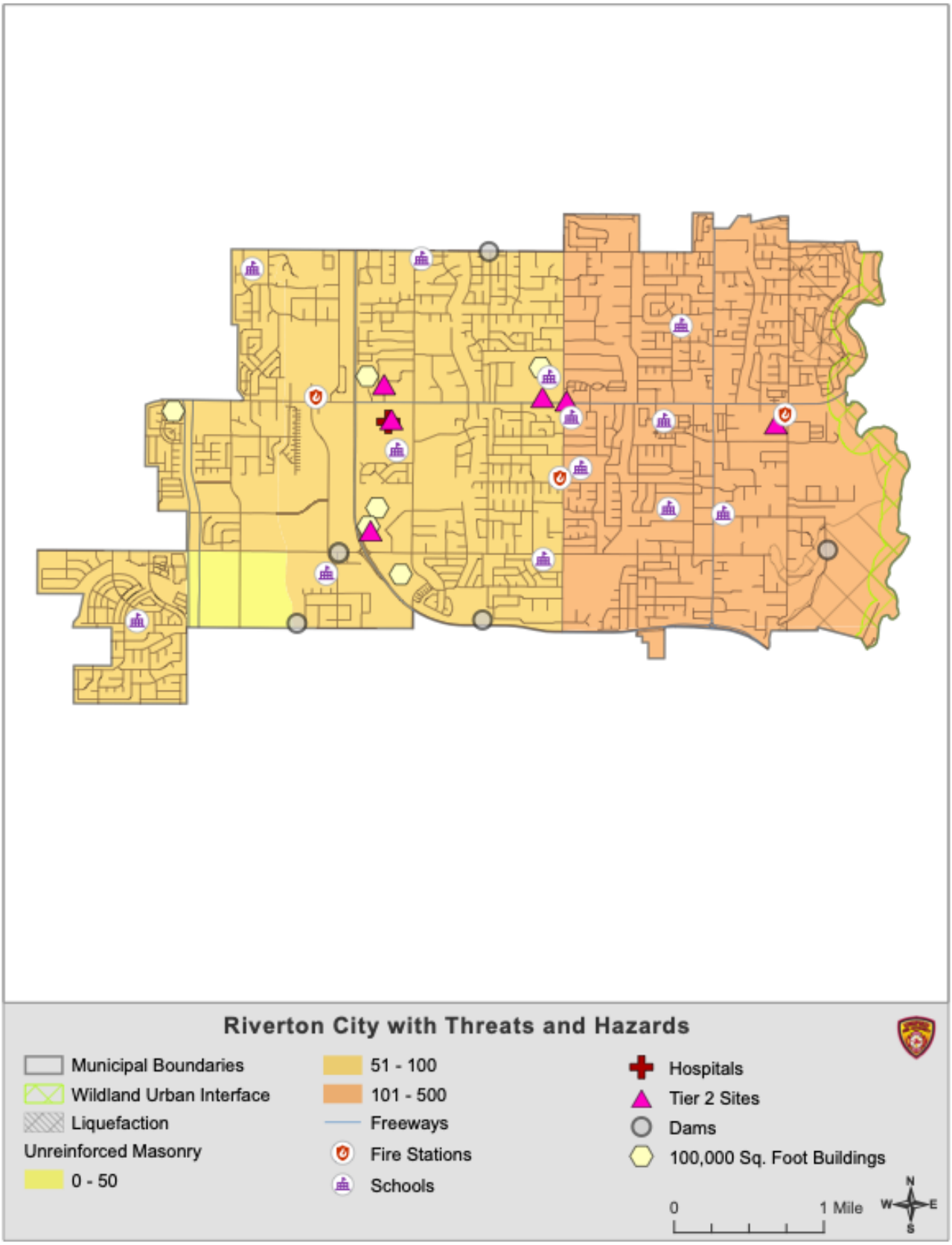
Target Hazards – Structures

Some of the target hazard occupancies in Riverton include:

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- Riverton City Hall -12830 S Redwood Rd
- Riverton Hardware - 12773 S Redwood Rd
- IHC Riverton Hospital - 3741 W 12600 S
- IFA 1926 W 12600 S
- Home Depot 3852 W 13400 S
- Lowe’s 12462 S Creek Meadow Rd
- Neuro restorative/ Country Life Care Center -13747 & 13757 S Redwood Rd
- Stamp It Up - 12907 S 3600 W
- Costco - 13126 S. Eagles Flight Rd

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Map 202 - Riverton City with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There has been a total estimate of $415,491.00 of property loss and a total estimate of $204,841.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

City of Taylorsville

Community Risk Assessment



City of Taylorsville Planning Zone

UFA has two stations within the City of Taylorsville Planning Zone covering a total of 10.85 square miles with a population of 60,448 and responded to 5,425 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
City of Taylorsville	60,448	13.40%	10.85	5,768	Urban

The City of Taylorsville has increased its population from 58,584 in 2010 to 60,448 in 2020, showing an increase of 3.08% over a ten-year timeframe. Providing an exponential growth pattern and if all things remain equal, chart 79 demonstrates that Taylorsville could grow to 64,356 by the year 2040.

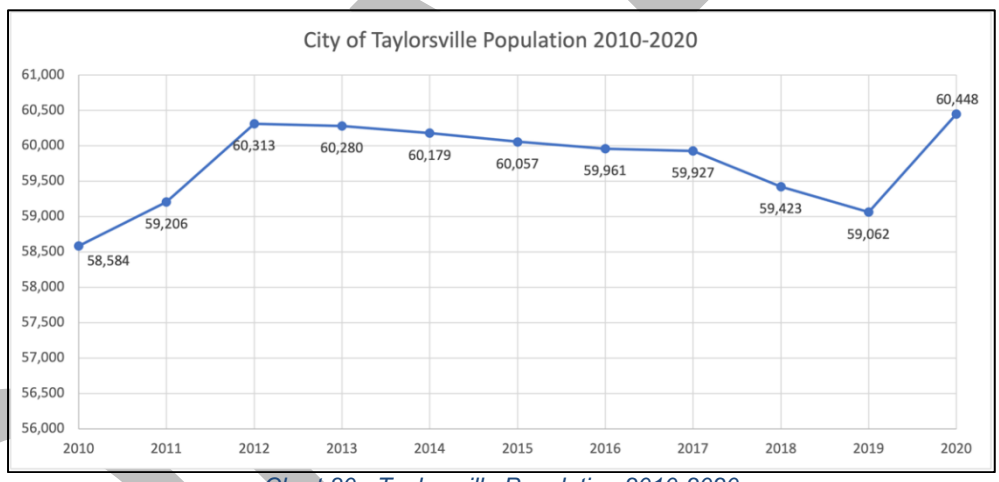


Chart 80 - Taylorsville Population 2010-2020

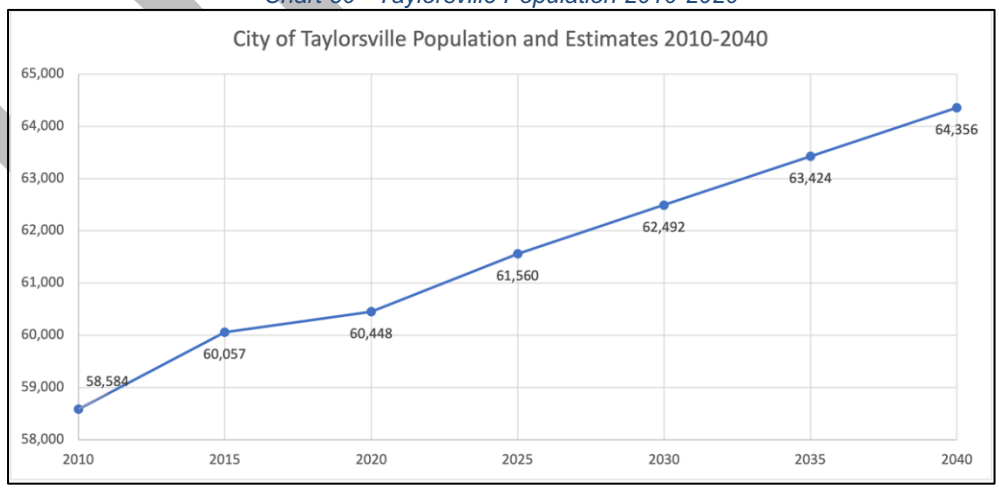


Chart 81 - Taylorsville Population and Estimates 2010-2040

City of Taylorsville Station Information

Station 117 information:

- Owner – UFSA
- Opened – 2017
- Address – 4965 South Redwood Road
- Staffing and Apparatus –
  - Type 1, ME 117 (4 persons)
  - Type 1, ML 117 (4 persons)
  - MA 217 (2 persons, part-time 24 hour)
  - Heavy Rescue (cross-staffed)



Image 26 – Taylorsville Station 117

Station 118 information:

- Owner – Taylorsville
- Opened – 1999
- Address – 5317 South 2700 West
- Staffing and Apparatus –
  - Type 1, ME 118 (4 persons)
  - MA 118 (2 persons)
  - Battalion Chief 13 (1 person)



Image 27 – Taylorsville Station 118

Surrounding UFA and Automatic/Mutual Aid Response Stations

Surrounding fire stations and fire departments that are within an eight-minute response to the City of Taylorsville are:

- UFA Station 101 (Millcreek), with a four-person medic engine and a two-person medic ambulance

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- UFA Station 109 (Kearns), with a four-person medic ladder and a two-person medic ambulance
- UFA Station 125 (Midvale City), with a four-person medic engine and a two-person peak-load medic ambulance
- UFA Station 126 (Midvale City), with a four-person medic engine and a two-person medic ambulance
- Murray Station 81, with a three-person medic engine and a two-person medic ambulance
- Murray Station 82, with a three-person medic engine and a two-person medic ambulance
- Murray Station 83, with a three-person medic engine and a two-person medic ambulance
- South Salt Lake Station 41, with a three-person engine and a two-person medic ambulance
- South Salt Lake Station 42, with a three-person engine and a two-person medic ambulance
- South Salt Lake Station 43, with a three-person engine and a two-person medic ambulance
- West Jordan Station 52, with a three-person engine and a two-person medic ambulance
- West Jordan Station 53, with a three-person engine and a two-person medic ambulance
- West Jordan Station 54, with a three-person engine and a two-person medic ambulance
- West Jordan Station 55, with a three-person engine and a two-person medic ambulance
- West Valley Station 71, with a three-person medic engine and a two-person medic ambulance
- West Valley Station 72, with a three-person engine and a two-person medic ambulance

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- West Valley Station 73, with a three-person engine and a two-person medic ambulance
- West Valley Station 74, with a three-person ladder and a two-person medic ambulance
- West Valley Station 75, with a three-person engine and a two-person medic ambulance
- West Valley Station 76, with a three-person engine

City of Taylorsville – Incidents by Dispatch Type

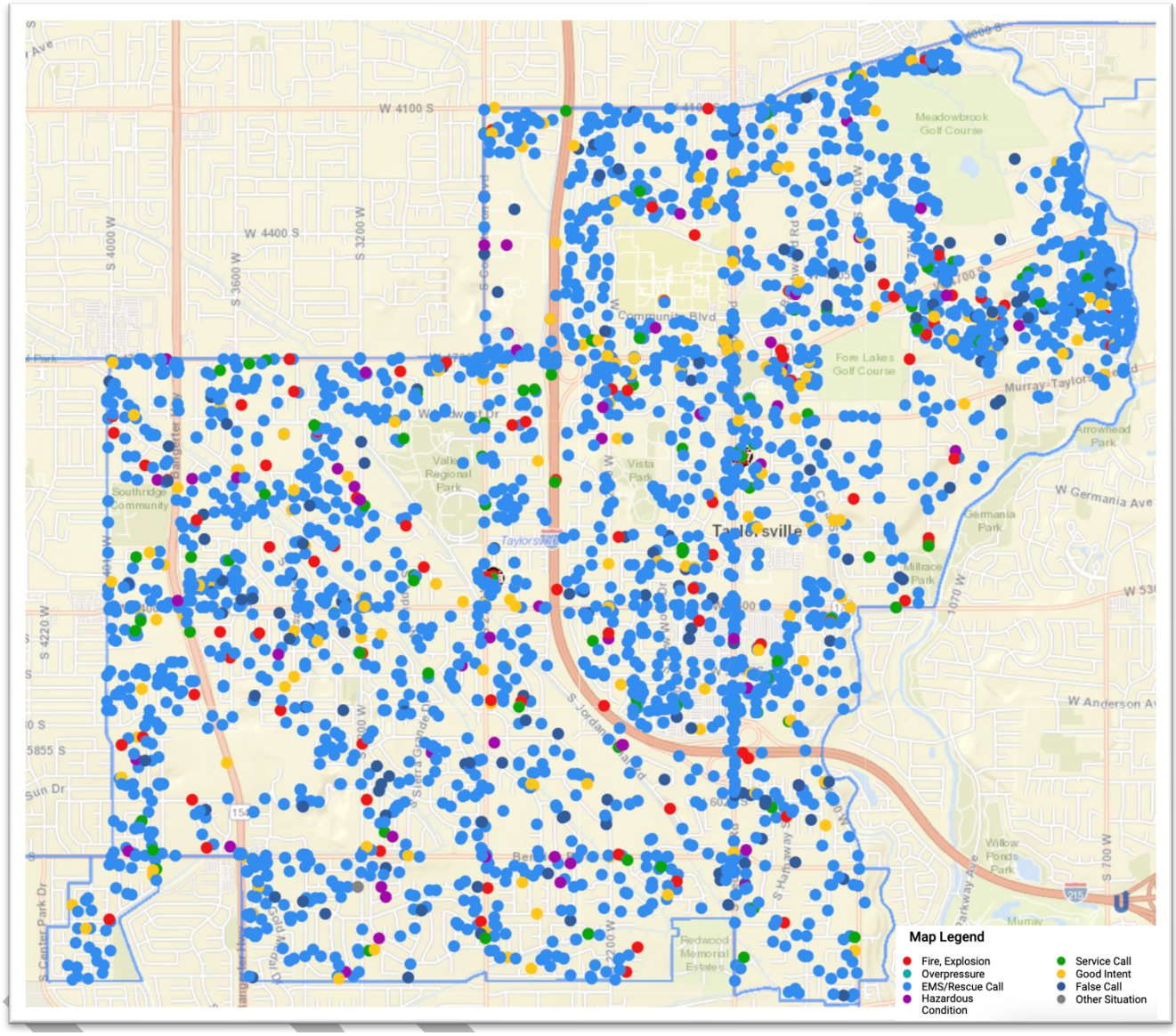
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	122	101	99
EMS	3,736	3,551	3,499
Hazardous Materials	69	74	53
Service Calls	134	207	139
Good Intent	708	496	419
False Calls	204	196	162
Other (Misc., Flood, Overpressure)	4	9	6
Total	4,977	4,634	4,377
Cancelled	448	257	279
Overall Total	5,425	4,891	4,656

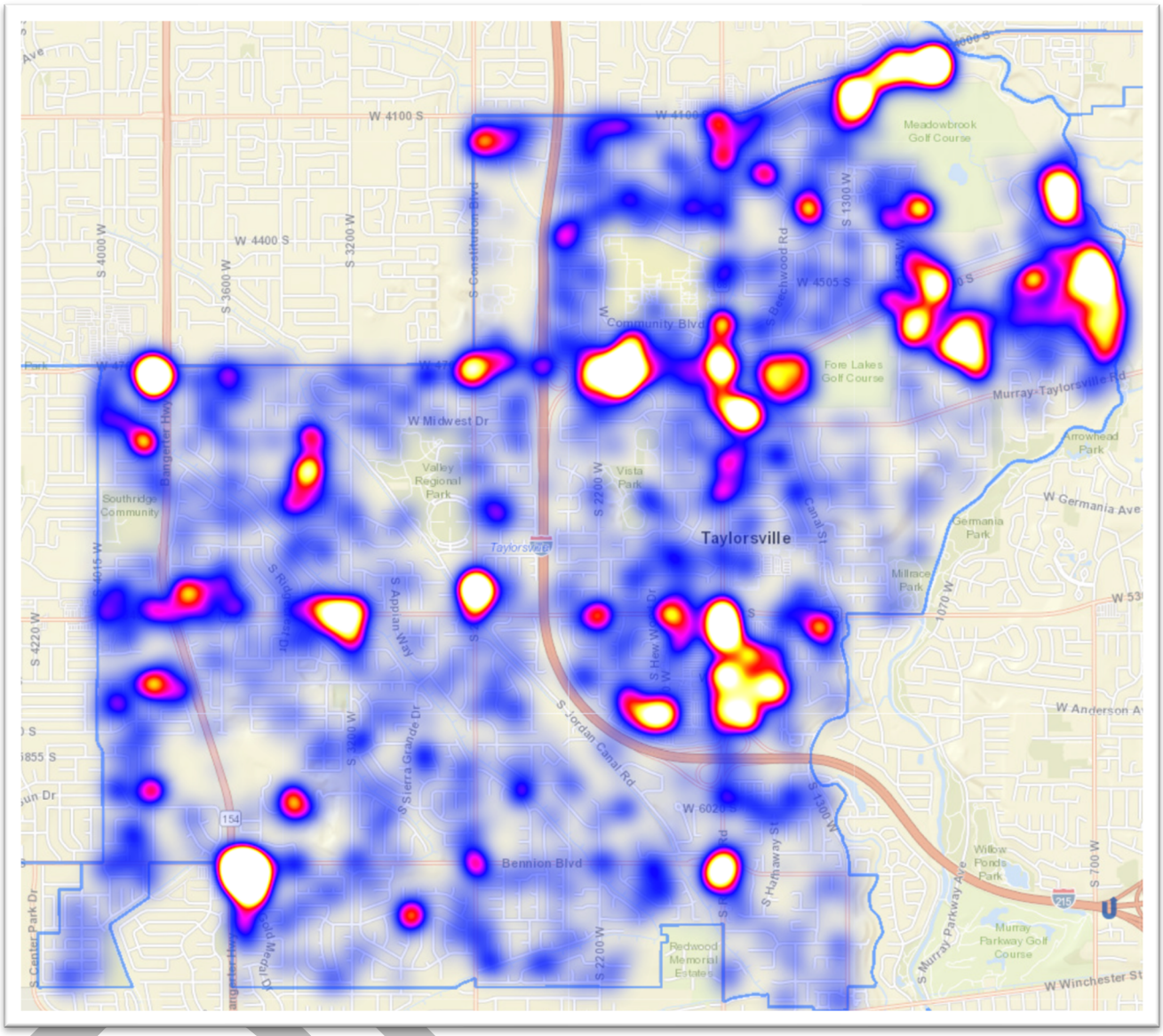
Table 132 – Taylorsville City Call Type

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City of Taylorsville – 2020 Incidents and Heat Map



Map 203 - Taylorsville Incident Calls by Call Type



Map 204 - Taylorsville Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

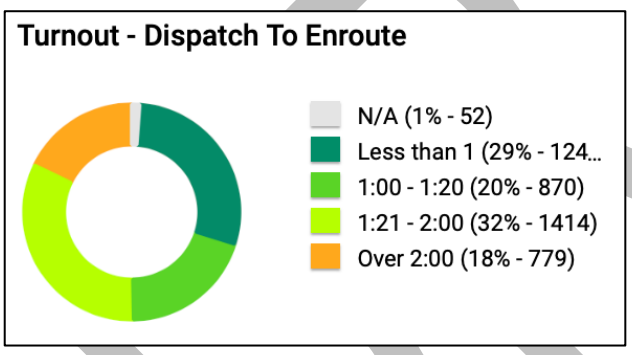
If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

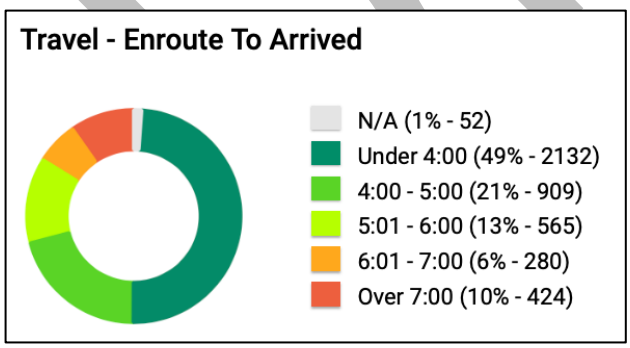
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

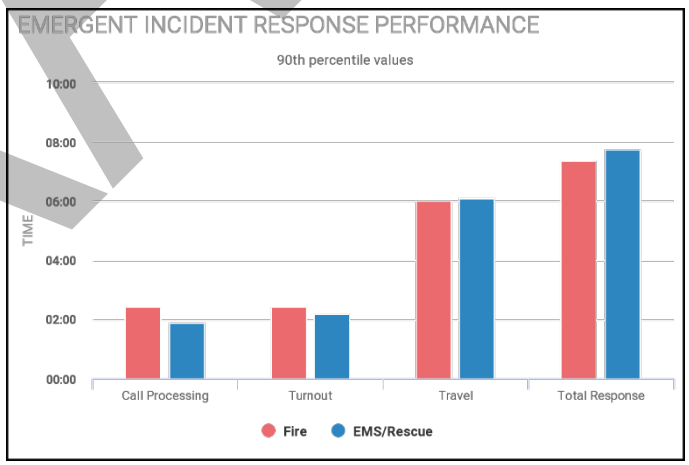
– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

City of Taylorsville – 2020 Dispatch and Response Times



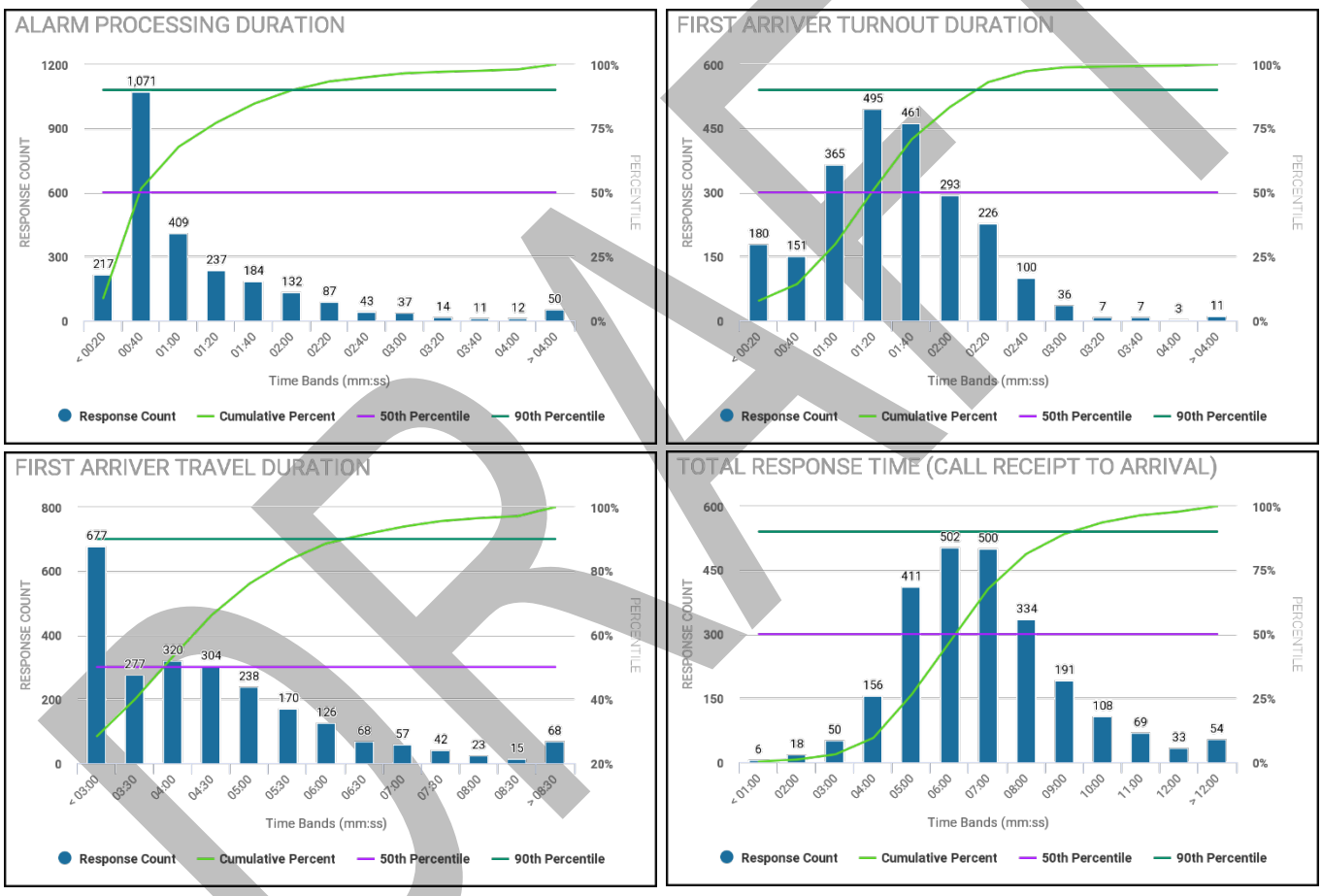




Urban	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Taylorsville	2:17	2:19	7:03	9:44	1:52	2:12	6:16	9:03
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 133 – Taylorsville 2020 Emergent Response Times, 90th percentile values

City of Taylorsville – 2020 Turnout and Travel Times



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within the City of Taylorsville. The 90th percentile for alarm processing for fire responses was 2:17 and 1:52 for EMS, the 90th percentile turnout time was 2:19 for fire responses and 2:12 for EMS responses. The 90th percentile travel time was 7:03 for fire responses and 6:16 for EMS. The 90th percentile total response

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time was 9:44 for fire and 9:03 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

City of Taylorsville – 2020 Incidents by Time of Day

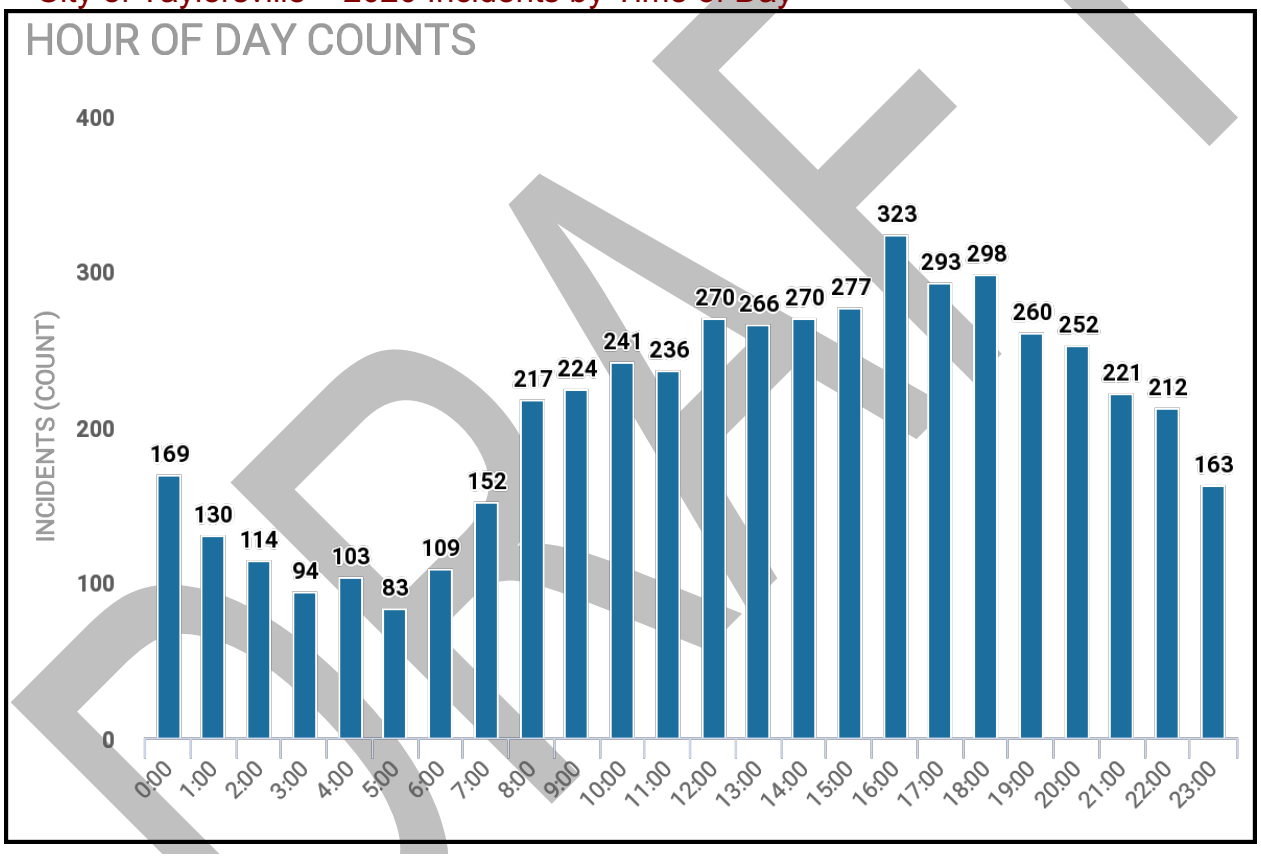


Chart 82 – Taylorsville 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Taylorsville for all service calls. This chart illustrates that the greatest demand for service delivery begins to increase at 6:00 AM and starts to decrease at 7:00 PM.

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City of Taylorsville – 2020 Incidents by Day of Week

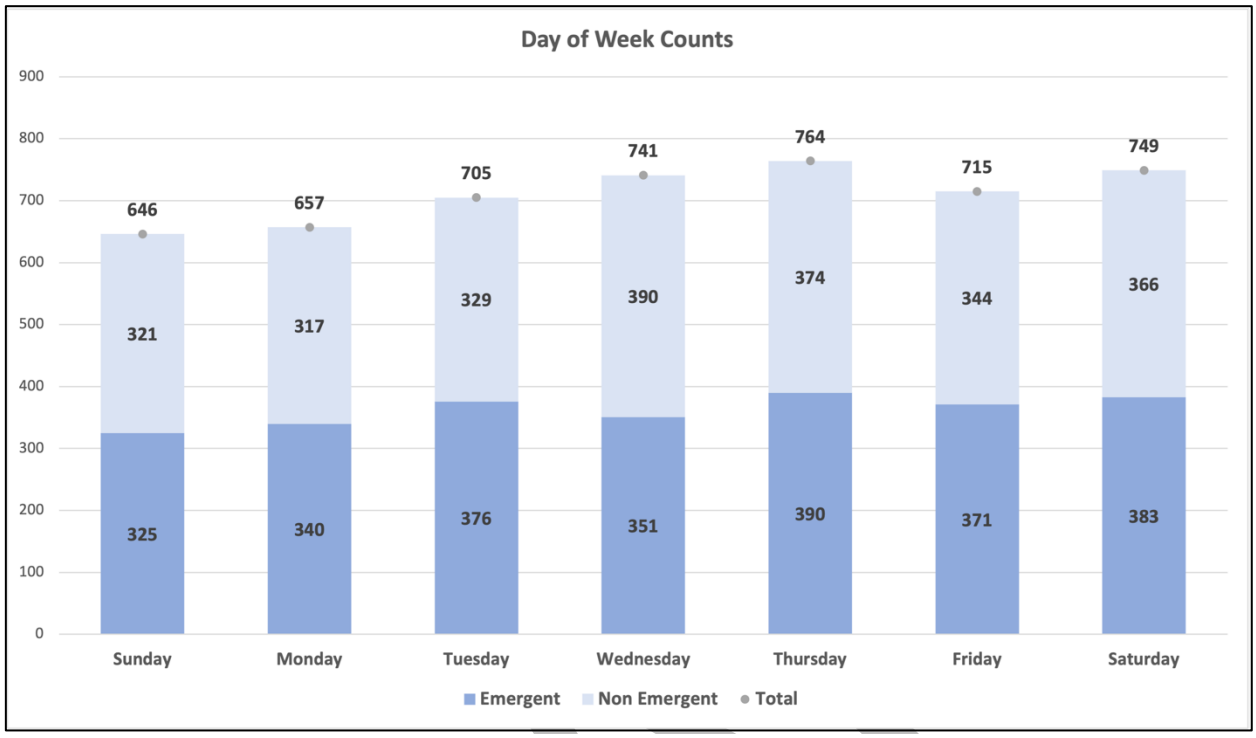


Chart 83 - Taylorsville Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls beginning Tuesday. The peak volume for all calls in Taylorsville occurs on Thursday.

City of Taylorsville – EMS Calls

EMS calls are filtered by final disposition codes and this data is taken from VECC and determined by the patient acuity at the time of call termination. Often times the EMS calls identified from final disposition are different than the number of EMS calls that were initially dispatched due to one being the initial call type, and one being what call type the call was closed as by responding fire crews.

	CY 2020	CY 2019	CY 2018
ALS Transports	1,347	1,527	1,228
BLS Transports	2,098	1,870	1,719
Scene Release	232	237	607
Public Assistance	34	34	21
EMS Total Calls	3,677	3,634	3,554
Note: There is possibly a difference if you were to add all calls due to data reporting mechanisms. Public assistance calls will sometimes get duplicated with a scene release, depending on dispatch code, but those calls do not carry across to the total calls. Also, cancelled calls go into a different final disposition so the numbers in the 'Incidents by Dispatch Type' are reflective of this difference.			

Table 134 – Taylorsville EMS Calls

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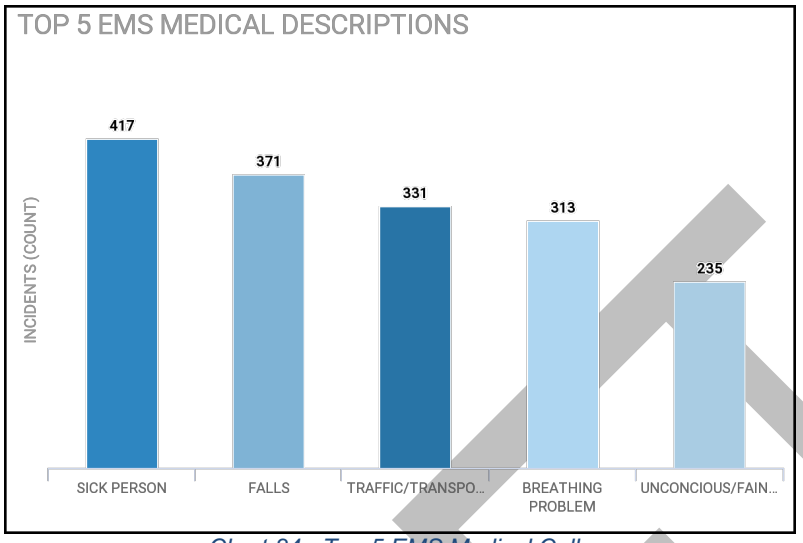


Chart 84 - Top 5 EMS Medical Calls

City of Taylorsville – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	49	43.8%
Natural Vegetation Fire	13	11.6%
Outside Rubbish Fire	25	22.3%
Vehicle Fire	10	8.9%
Special Outside Fire	8	7.1%
Fire, Other	5	4.5%
Mobile Property Fire	2	1.8%
Total	112	100%

Table 135 – Taylorsville 2020 Incidents by Dispatch Type

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City of Taylorsville – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	44	3	5	0	52
Commercial/Industrial	4	4	9	3	21
Educational	0	16	1	0	17
Government	9	0	2	1	12
Healthcare	0	0	1	0	1
Hazardous	Unknown	Unknown	Unknown	Unknown	100*
Storage	0	0	0	0	0
Residential	5,003	6,927	483	1	12,414
Residential – Multi Unit	63	159	23	6	251
High Rise	N/A	N/A	0	0	0
Total	5,123	7,109	524	11	12,868

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

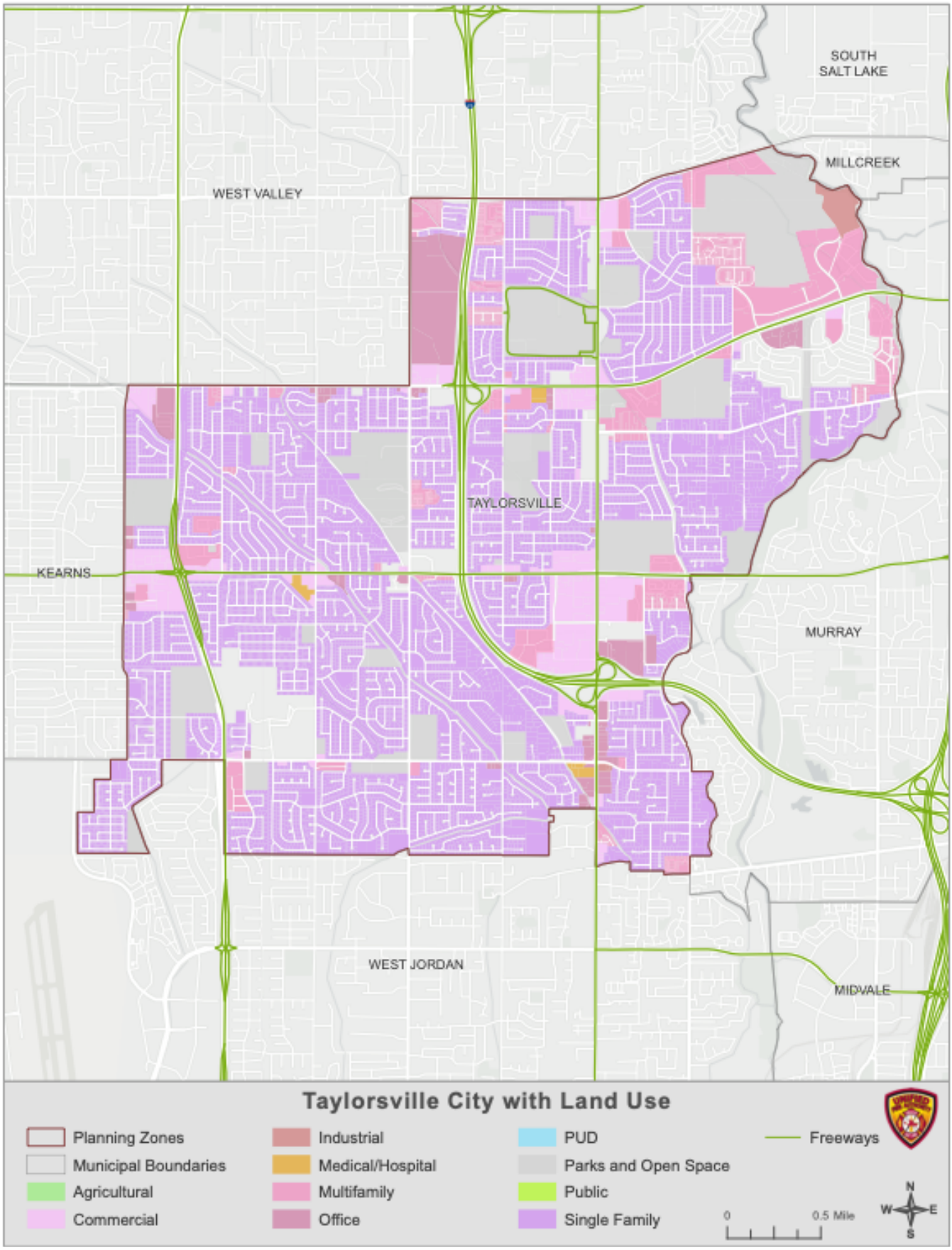
Table 136 – Taylorsville Building Occupancy and Risk Categories

Building Size / Considerations

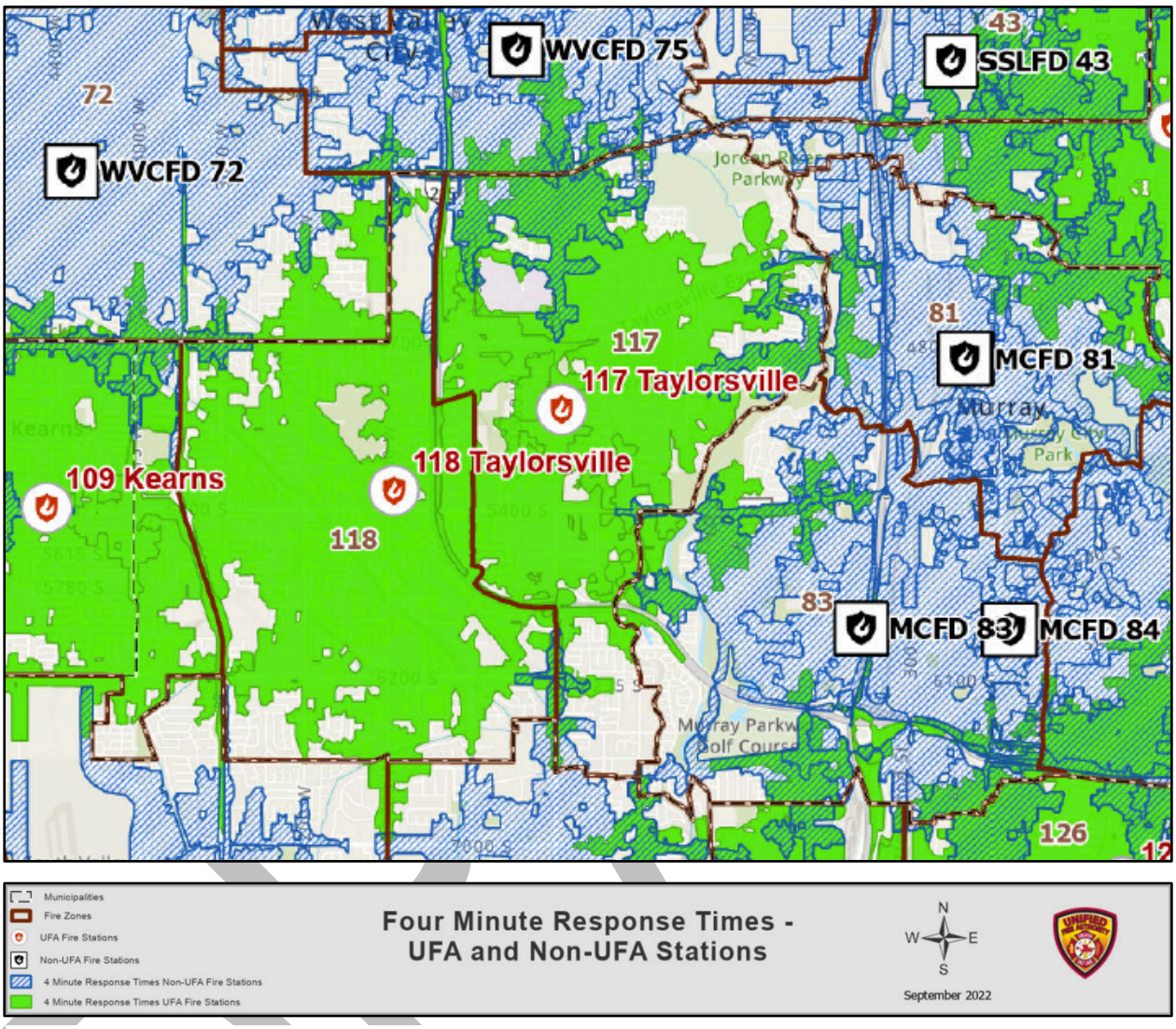
For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

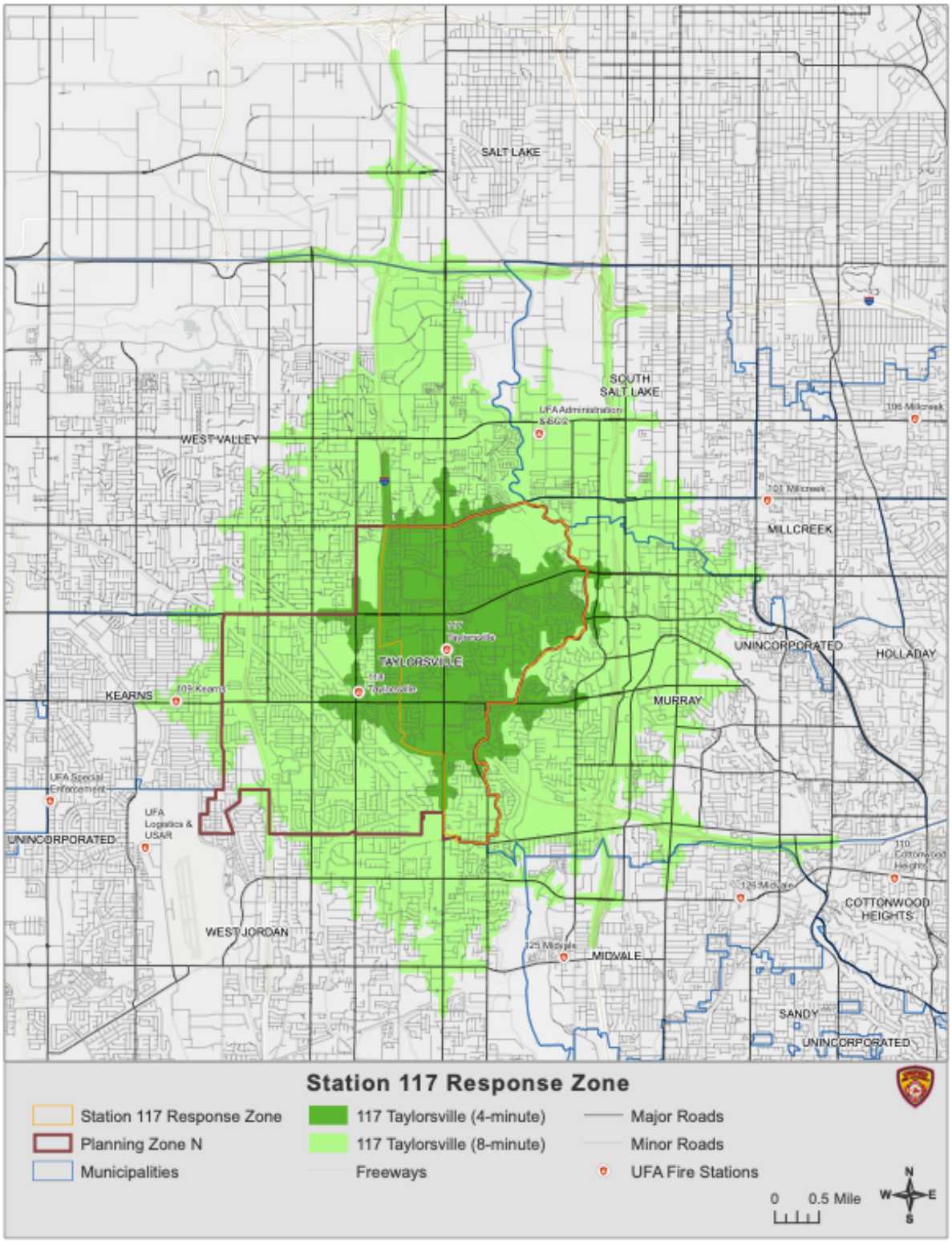
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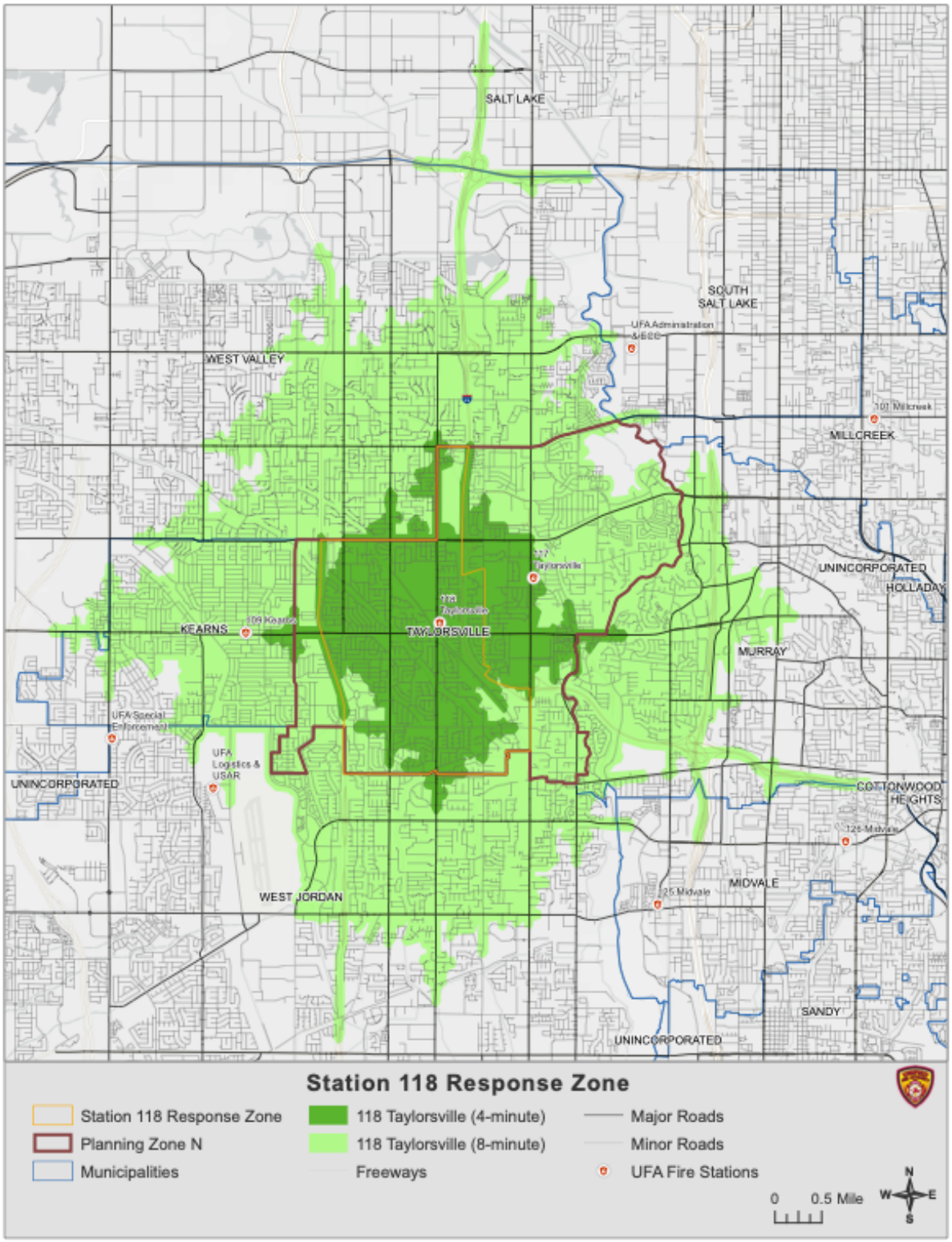
Map 205 - Taylorsville with Land Use



Map 206 - 4-Minute Travel Time, UFA and Aid



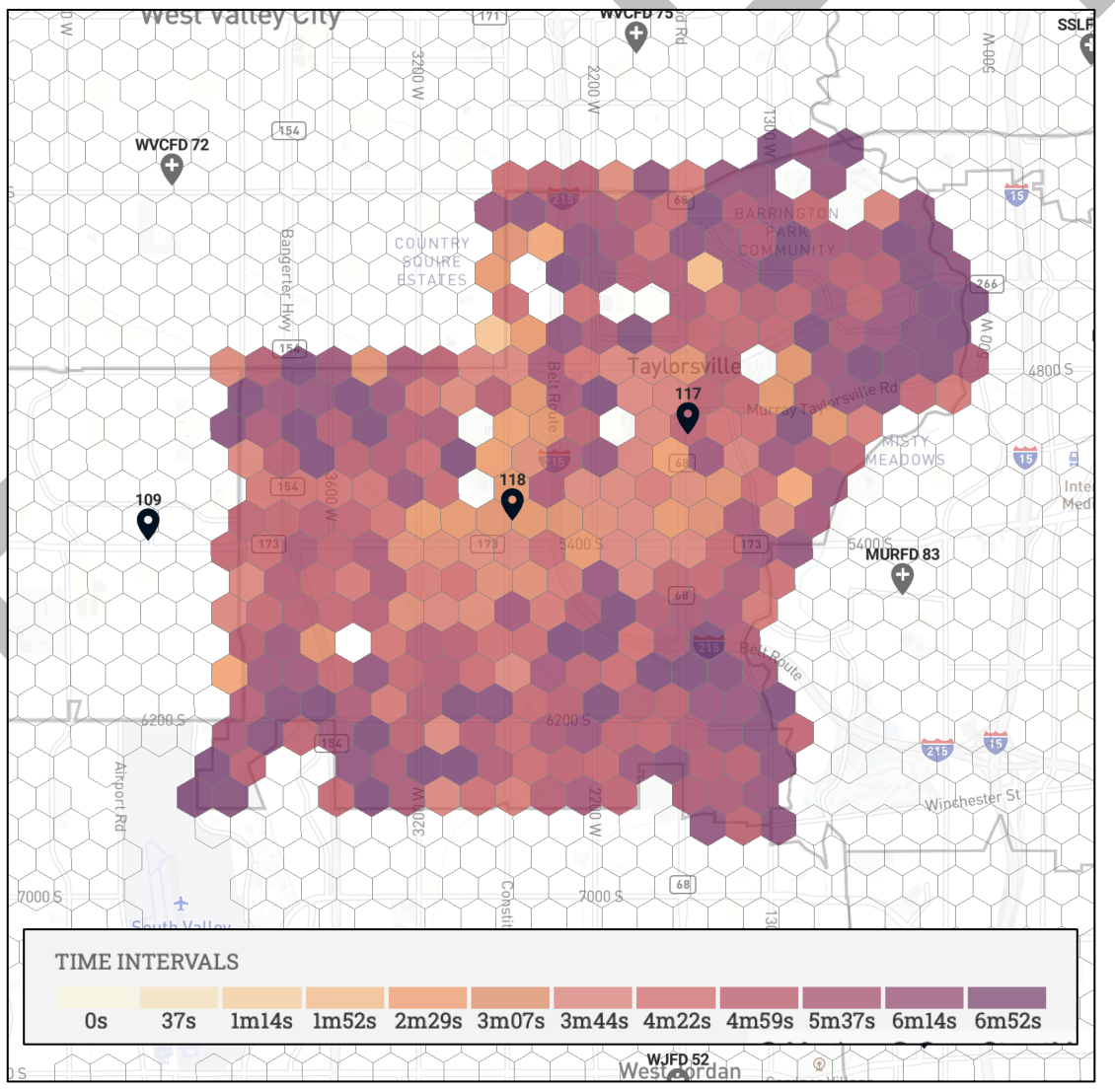
Map 207 - Station 117 4- and 8-Minute Travel Times



Map 208 - Station 118 4- and 8-Minute Travel Times

City of Taylorsville – First Arriver Travel Times

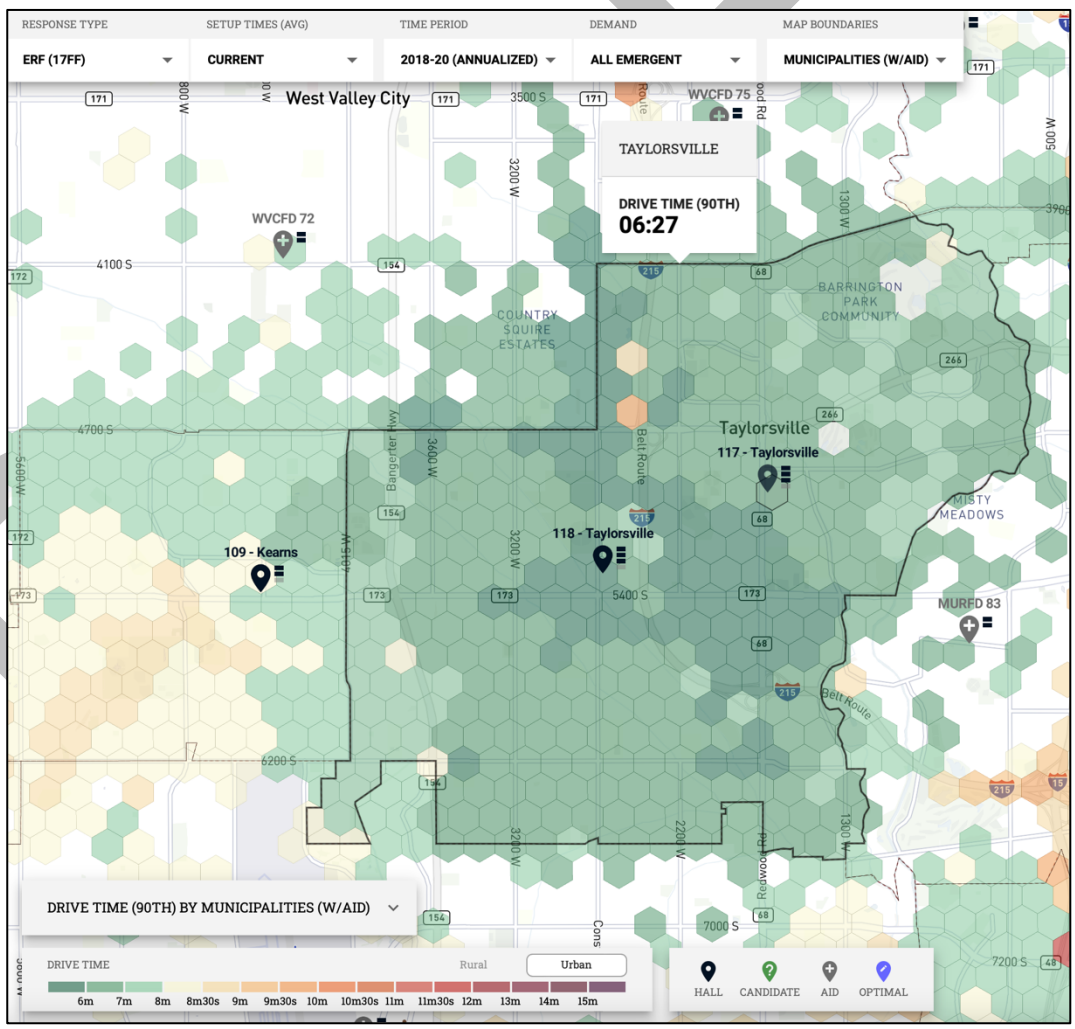
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the lighter colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently within Taylorsville, the 90th percentile drive time is 7:03 for fire and 6:16 for EMS.



Map 209 – Taylorsville Response Times – All Aid

City of Taylorsville – Residential Fire Effective Response Force (17 FF)

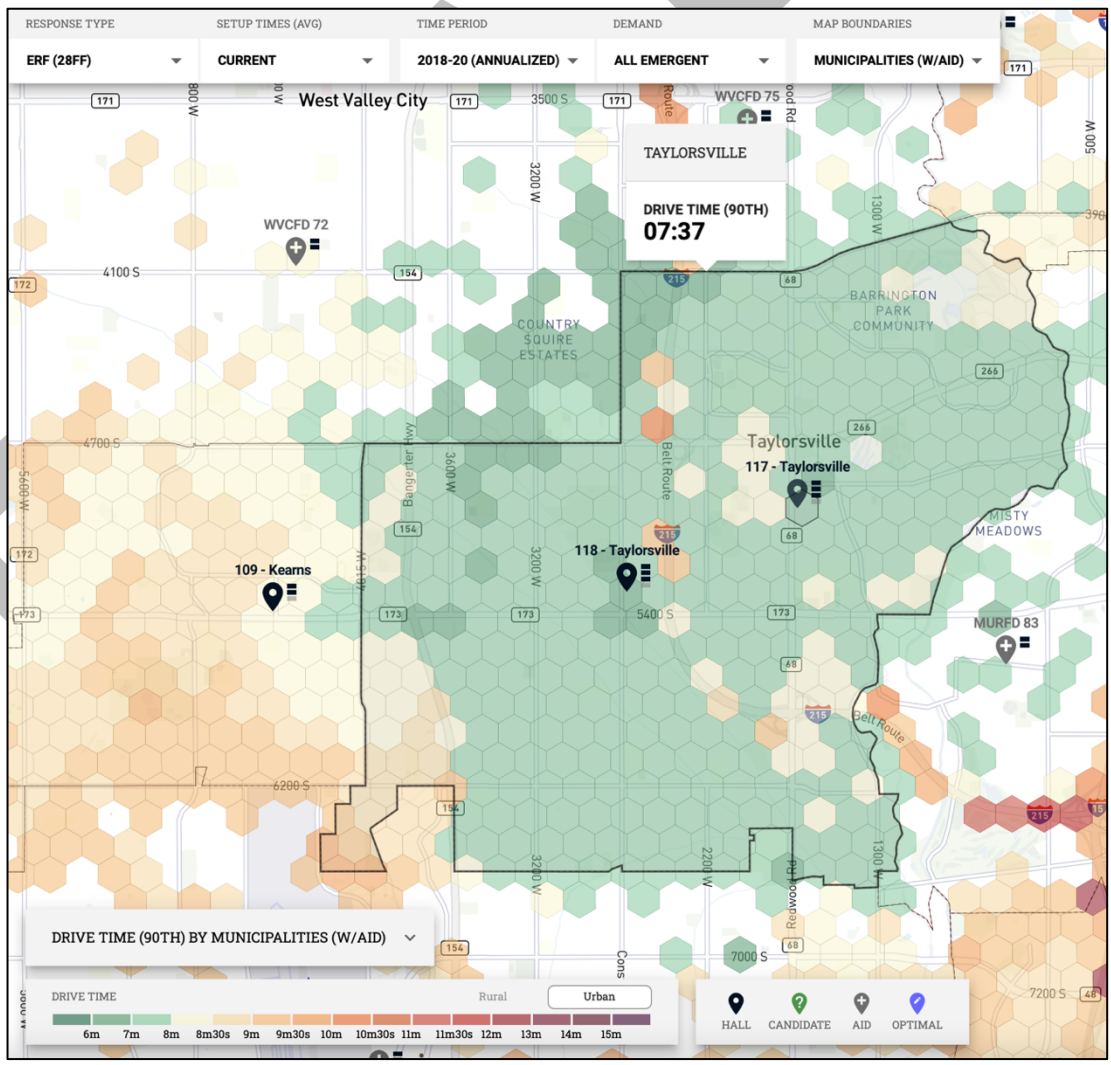
This map demonstrates the coverage of a multi-unit response to a residential fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 6:27.



Map 210 – Taylorsville Response Times – Residential Fire Effective Response Force (17 ERF)

City of Taylorsville – Commercial Fire Effective Response Force (28 FF)

This map demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 28 firefighters to arrive on scene would be 07:37.



Map 211 – Taylorsville Response Times – Commercial Fire Effective Response Force (28 FF)

City of Taylorsville Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
High	Mod	High	Low	Low	Mod	Low	Mod	Mod	High	High	High

Table 137 - Riverton City Hazard Matrix

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Infrastructure – Transportation

There are several high-level transportation routes within Taylorsville. I-215 runs north-south through the city and turns east-west on the south border of the city. State Road 154 runs north-south through the city. Several arterials and state roads also run through Taylorsville, with 4700 South, 5400 South, and 6200 South running east-west and Redwood Road, 2700 West and 3200 West running north-south through the city. There are 11.3 linear miles of Interstate/US Highway, 17.3 linear miles of State Highways, and 210 total linear miles of roadway. Taylorsville is in the high-risk category for road infrastructure.

Infrastructure – Water

There is one water districts within Taylorsville, the Taylorsville-Bennion Improvement District.

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Infrastructure – Dams

There are three identified dams within Taylorsville, which is in the moderate-risk category for dam infrastructure.

Natural Hazards

Within Taylorsville City, there are no concerns with avalanche areas. Taylorsville is in the low-risk category for avalanche. There are several identified fault lines that run north/south through the city (see Map 8) and are components of the Wasatch Fault. Taylorsville is in the high-risk category for both liquefaction and the low-risk category for fault lines. There are roughly 14,547 linear feet of fault lines within Taylorsville. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings within Taylorsville, with an estimated 2,147 URM's, which constitutes about 8.74% of the overall URM's within UFA's response areas. Taylorsville is in the moderate-risk category for unreinforced masonry.

Wildland Urban Interface

The largest concern of a Wildland Urban Interface area within Taylorsville is in the river bottoms along the Jordan River. Taylorsville is in the low-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are seven identified HazMat/Tier II Sites within Taylorsville, which is in the moderate-risk category.

Hospitals

Taylorsville has one free-standing Emergency Room, the Taylorsville Emergency Room, located at 2675 West Taylorsville Blvd. Taylorsville is in the moderate-risk category for hospitals.

Schools

Taylorsville City has seven elementary schools, two middle schools, and one high school, within city boundaries, which places it in the high-risk category.

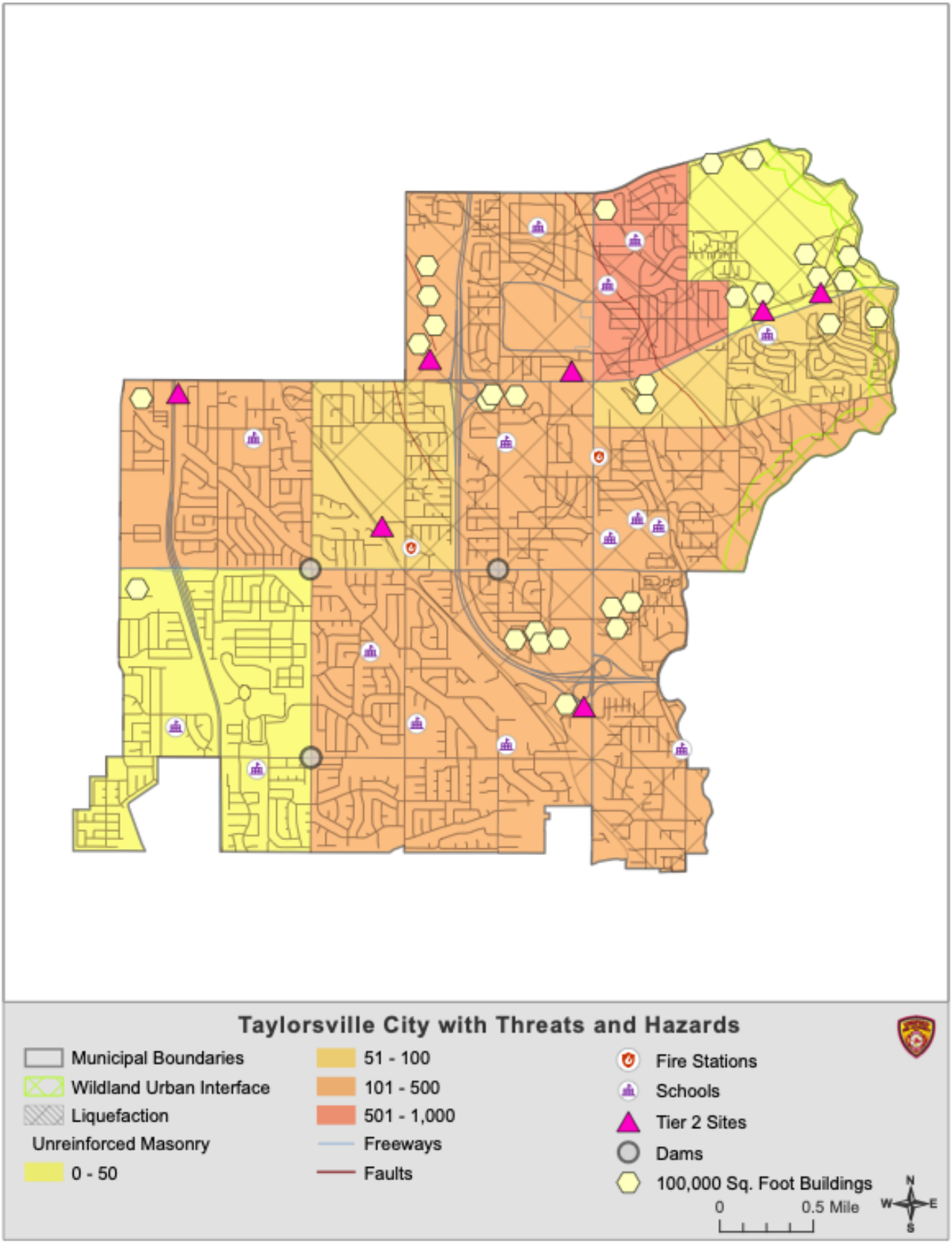
Target Hazards – Structures

Some of the target hazard occupancies in Taylorsville include:

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- Golden Living Center – 2011 W 4700 S
- Silver Crest Apartments – 2099 W 4700 S
- Legacy Village – 3251 W 5400 S
- Legacy House – 6302 S Gold Medal Dr
- Bristol Apartments – 6218 S Gold Medal Dr
- Avalon West – 6246 S Redwood Rd
- Summit Vista – 3390 W Signal Peak Dr

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Map 212 - Taylorsville with Combined Hazards

Life and Property Loss

From 2015-2020, there have been two fatalities attributed to fire. There has been a total estimate of $4,419,732.00 of property loss and a total estimate of $1,283,026.00 of content loss due to fire.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and respond to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat

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companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water team, ice rescue team, as well as a dive rescue team. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house Water Rescue Companies.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Investigations Division

Arson and Explosive related incidents are considered two of the most dangerous criminal activities that threaten our citizens. The need exists to protect the citizens of our jurisdiction from loss of life and property by reducing the crime of arson, arson-related crimes, improvised explosive devices (IEDS) and the prevention of future violent crimes. The Investigations Division addresses this need by establishing a sound foundation of effective enforcement, focusing on the apprehension of the offender, while in partnership with other Local, state and federal law enforcement agencies. The team utilizes highly-trained Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) certified K-9's that assist with accelerant and explosives detection.

Urban Search & Rescue

A FEMA Urban Search and Rescue Task Force is a team of individuals which serve as a resource for disaster response at local, state, and federal levels. It is comprised mainly of firefighters but includes structural engineers, medical professionals,

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canine/handler teams and emergency managers with highly specialized training in urban search and rescue environments.

Utah Task Force 1 (UT-TF1) is one of 28 Type I, Federal Urban Search & Rescue (US&R) Task Forces in the United States. This program brings a highly trained, multi-hazard Task Force that is especially designed to respond to a variety of emergencies/disasters including earthquakes, hurricanes, tornadoes, floods, terrorist acts and hazardous material releases. Fire department personnel that are task force members receive specialized training and skills that directly benefit Unified Fire Authority.

Salt Lake County Emergency Management

The Salt Lake County Division of Emergency Management serves our citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center is activated and manned during any event—from small-scale to large-scale occurrences—to disasters both natural and man-made that can or have exceeded the resources of any particular jurisdiction. Currently, the Salt Lake County ECC assists and obtains resources for the 22 jurisdictions located within the Salt Lake Valley. Salt Lake County EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to their normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has been activated for many events such as Child Abduction Response Team (CART) Deployments, wildland fires such as the Rosecrest and Machine Gun fires, flooding, severe weather events, earthquakes, civil unrest, the COVID-19 pandemic, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Unincorporated Salt Lake County

Community Risk Assessment



SALT LAKE COUNTY

UNIFIED FIRE AUTHORITY
GREATER
SALT LAKE

Unincorporated Salt Lake County Planning Zone

UFA has no stations within Unincorporated Salt Lake County (SLCo) and responds to all Unincorporated areas from surrounding municipal fire stations. This includes the majority of the canyons within the Salt Lake Valley and is probably the most dynamic of our planning zones due to types of responses. Responses include technical rescues (including swift water rescues and high angle rescues), motor vehicle accidents, brush fires, and urban interface fires. Other areas of interest include Kennecott/Rio Tinto, the Utah Data Center, and Camp Williams. UFA covers a total of 390.59 square miles with a population of 7,094 and responded to 1,168 calls for service in 2020.

Planning Zone	Population	Population Percentage of UFA	Square Miles	Population Density per Sq Mile	Classification
Unincorporated Salt Lake County	7,094	1.57%	390.59	<1	Wilderness

Surrounding UFA and Automatic/Mutual Aid Response Stations

Due to the unimproved and forested nature of much of Unincorporated Salt Lake County, as well as the various unincorporated pockets within the Salt Lake Valley, many of the remaining 9 fire agencies within the Salt Lake Valley have either contiguous borders with portions of Unincorporated Salt Lake County or are close to or provide service to pockets of Unincorporated Salt Lake County. Due to the nature of these unincorporated areas, it is difficult to accurately identify the agencies and stations within an eight-minute response time to Unincorporated Salt Lake County. While eight-minute response times can be determined to some degree along the major transportation routes and established communities, there are other areas within Unincorporated Salt Lake County with unimproved roads, or in some cases no roads, that make the collection of this data nearly impossible. The following table identifies the units and apparatus from UFA that responded into Unincorporated Salt Lake County on service calls.

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Unit	Responses
AL115	1
BC11	114
BC12	8
BC13	27
DC14	10
E6102	3
E6106	6
E6111	4
E6112	14
E6116	3
E6125	1
HM109	3
HM124	1
HM126	7
HR117	16
HR121	5
HV117	3
MA101	54
MA109	53
MA110	73
MA118	3
MA120	5
MA126	12
MA204	78
MA206	91
MA210	28
MA211	61
MA221	41
MA223	17
MA225	4
MA226	18
ME101	15
ME102	71
ME103	57
ME104	106
ME108	34
ME112	185
ME113	131
ME115	19
ME116	152
ME117	4
ME118	1
ME119	25
ME123	4
ME125	1
ME126	6
ML106	34
ML109	43
ML110	49
ML111	24
ML117	10
ML121	2
OPS1	4
PIO2	1
PIO3	1
PIO4	1
SAFE1	1
WILD1	1
WILD2	1
WILD9	1

Table 138 - Apparatus Response in Unincorporated Salt Lake County - 2020

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Unincorporated SLCo – Incidents by Dispatch Type

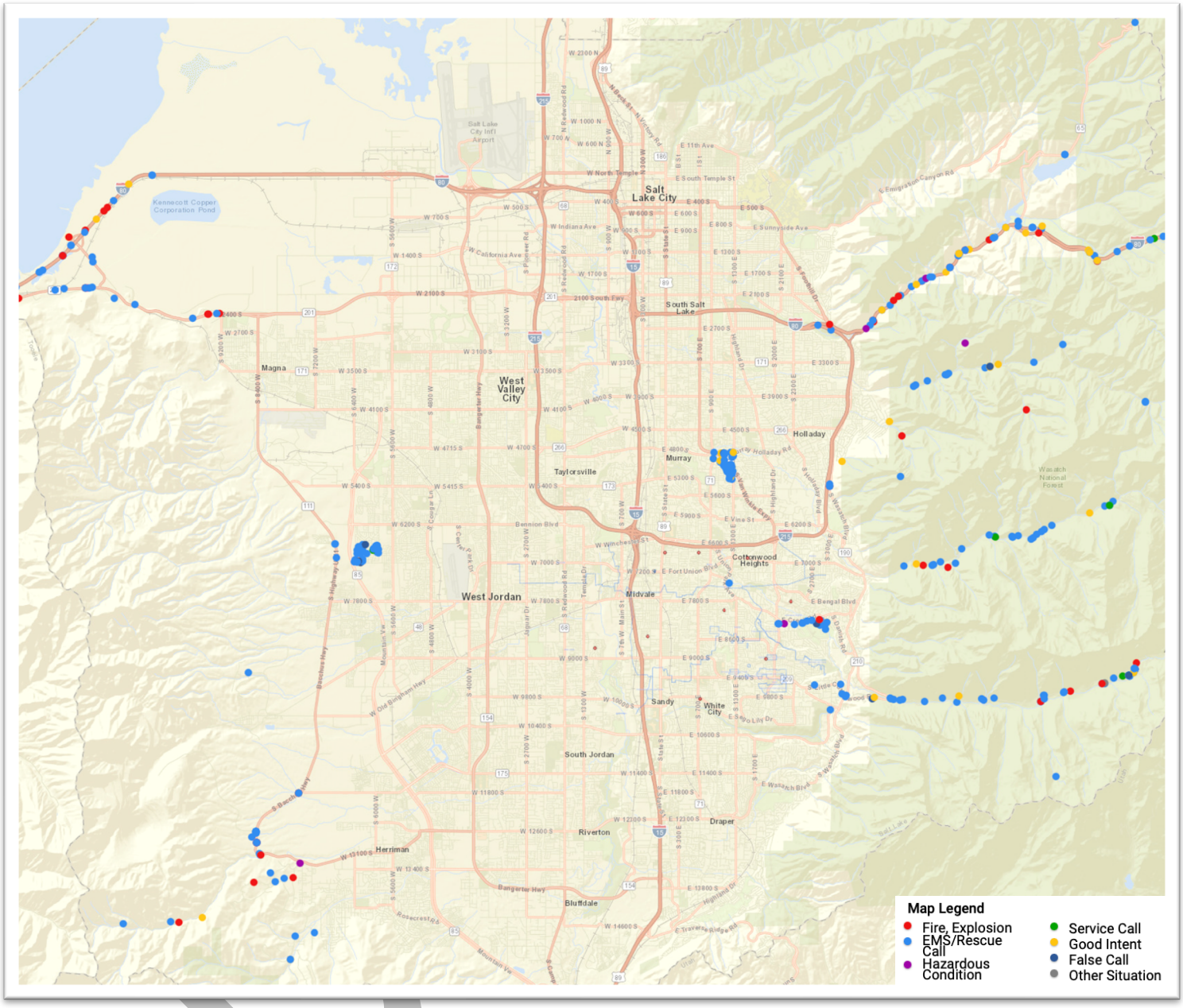
The following data is what the NFIRS type was when crews arrived on scene. This may be different than what was originally dispatched, including a reclassification of a call type from one to another. Cancelled calls occur if the company is cancelled en route to a call and never arrives on scene, which then changes the dispatch type to an NFIRS 611 call type.

	CY 2020	CY 2019	CY 2018
Fire Suppression	50	25	60
EMS	528	575	628
Hazardous Materials	21	17	24
Service Calls	24	34	24
Good Intent	293	233	216
False Calls	42	21	24
Other (Misc., Flood, Overpressure)	4	1	2
Total	962	906	978
Cancelled	206	153	155
Overall Total	1,168	1,059	1,133

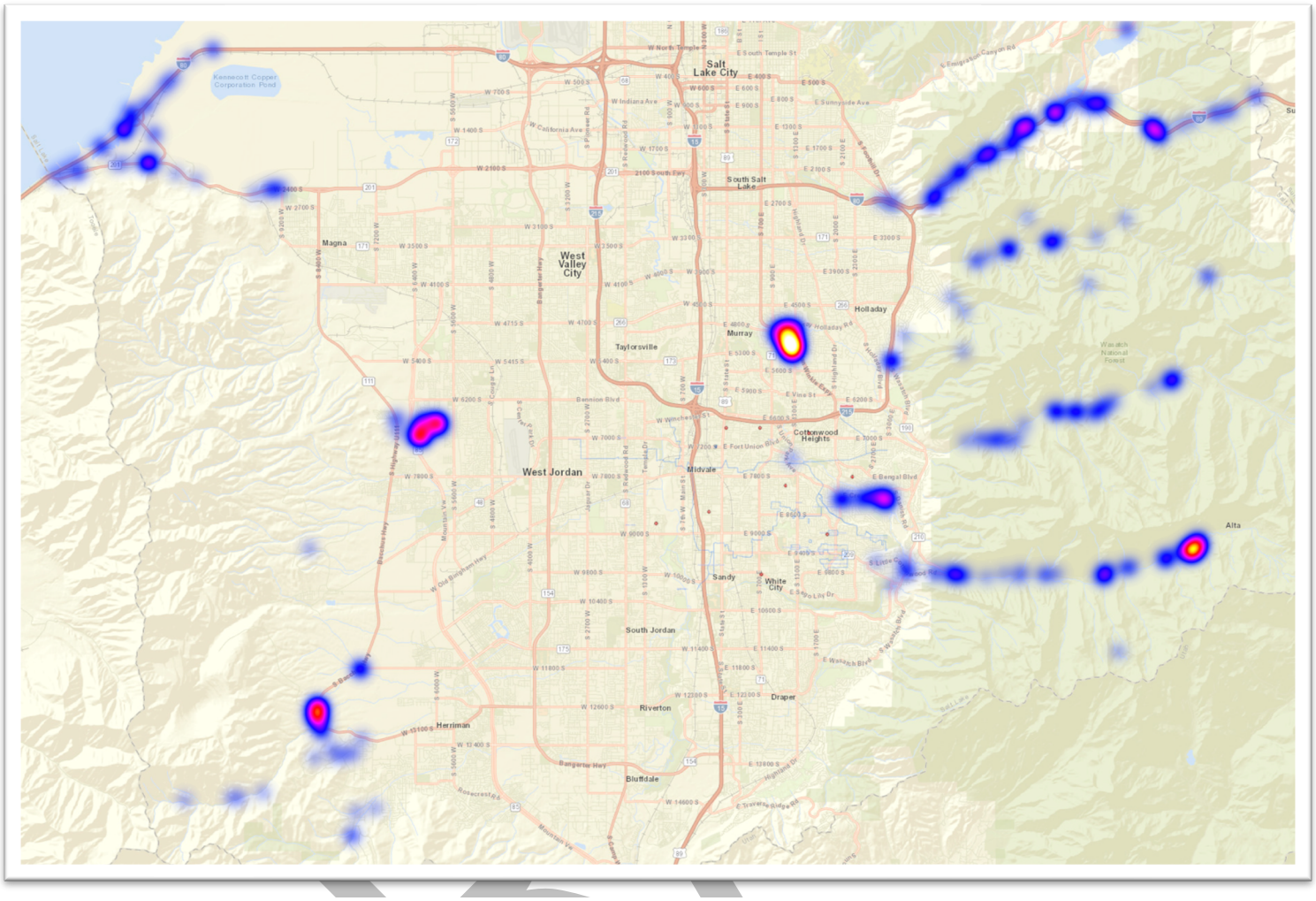
Table 139 – Unincorporated Salt Lake County Call Types

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Unincorporated SLCo – 2020 Incidents and Heat Map



Map 213 – Unincorporated Salt Lake County Incident Calls by Type



Map 214 – Unincorporated Salt Lake County Call Volume Heat Map

NFPA 1710

The National Fire Protection Association is an international nonprofit organization that is devoted to eliminating death, injury, property, and economic loss due to fire, electrical and related hazards. The NFPA makes recommendations on over 300 codes and standards. NFPA 1710 recommendations are based off 90th percentile times.

– In Other Words…

If a value is in the 90th percentile, it means the value is better than 90% of all other values in the dataset. In other words, it is within the top 10% of the values.

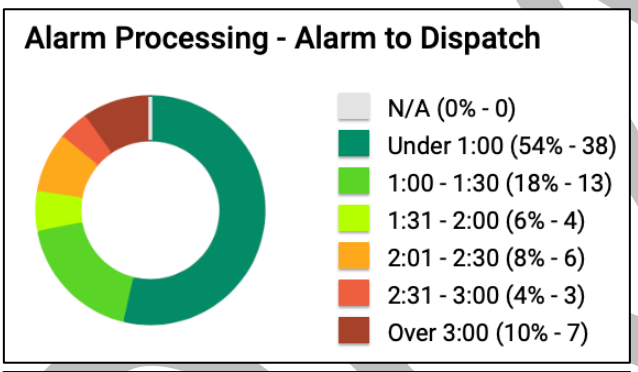
NFPA 1710 encompasses suggested standards for full-time fire departments and recommends the following times (all of which are at the 90th percentile): alarm

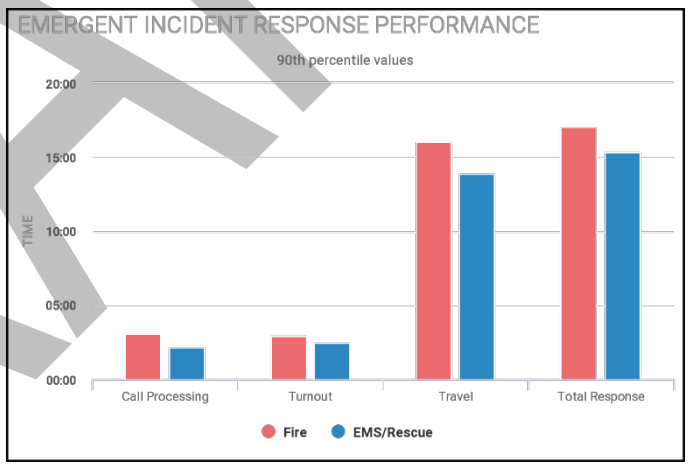
processing – 64 seconds; turnout time for EMS responses – 60 seconds; turnout time for fire responses – 80 seconds; first arriver apparatus – 240 seconds (4 minutes); initial full-alarm assignment for low and medium hazard responses – 480 seconds (8 minutes); or initial full-alarm assignment for high hazard/high-rise responses – 610 seconds (10 minutes 10 seconds). The total response times are the cumulative totals of call processing time, turnout time, and travel time. NFPA 1710 recommends a total response time of 6:24 for the first arriving apparatus for fire and 6:00 for the first arriving apparatus for EMS.

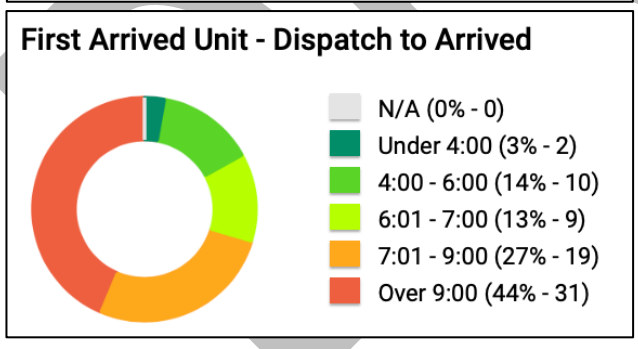
– Of Note…

NFPA 1710 response times have not been adopted by the UFA Board. One of the important elements of the community risk assessment and standards of cover is to identify current 90th percentile times (current baselines) within UFA and to identify realistic benchmarks for the UFA Board to consider for adoption.

Unincorporated SLCo – 2020 Dispatch and Response Times







Rural	Call Processing: Fire	Turnout Time: Fire	Travel Time: Fire	Total Response: Fire	Call Processing: EMS	Turnout Time: EMS	Travel Time: EMS	Total Response: EMS
Unincorp SLCo	2:45	2:35	15:16	18:38	1:58	2:27	14:26	16:30
UFA Urban 2018-2020	2:16	2:39	7:36	10:34	1:47	2:32	6:29	9:18
UFA Rural 2018-2020	2:32	3:05	15:08	19:09	1:56	2:50	14:45	17:45
NFPA 1710	1:04	1:20	4:00	6:24	1:00	1:00	4:00	6:00

Table 140 – Unincorporated SLCo 2020 Emergent Response Times, 90th percentile values

Unincorporated SLCo – 2020 Turnout and Travel Time



The charts above illustrate the alarm processing, turnout and travel times for all units responding to service calls within Unincorporated Salt Lake County with the teal-colored line representing the 90th percentile target goal. The alarm processing for fire was 2:45 and 1:58 for EMS; turnout time was 2:35 for fire responses and 2:27 for EMS responses; travel time was 15:16 for fire responses and 14:26 for EMS. The 90th

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percentile total response time was 18:38 for fire and 16:30 for EMS. For the charts above, they show both fire and EMS response times together.

– Of Note…

One item to note is that if you were to add the processing time, the turnout time, and the travel time, it will not necessarily (and often doesn't), sum the total response time. This is due to some of the limitations within the datasets and gaps within timestamps. Where there are missing timestamps, those particular key performance indicators (KPI) are excluded as they cannot accurately be calculated out.

Unincorporated SLCo – 2020 Incidents by Time of Day

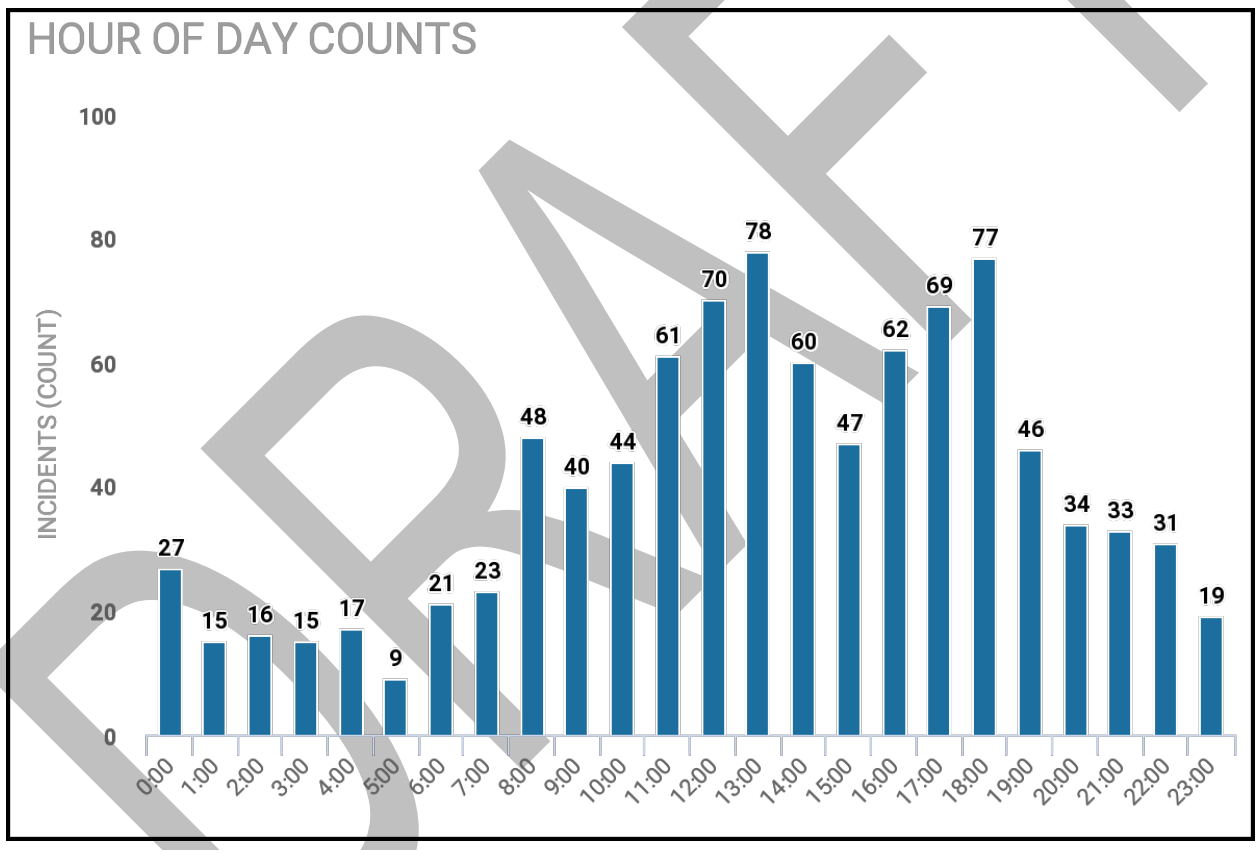


Chart 85 –Unincorporated SLCo 2020 Incidents by Time of Day

The above table demonstrates the incidents by time of day and the time of greatest demand within Unincorporated Salt Lake County for all service calls. This chart illustrates that the greatest demand for service delivery begins at 8:00 AM and starts to decrease at 6:00 PM.

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Unincorporated SLCo – 2020 Incidents by Day of Week

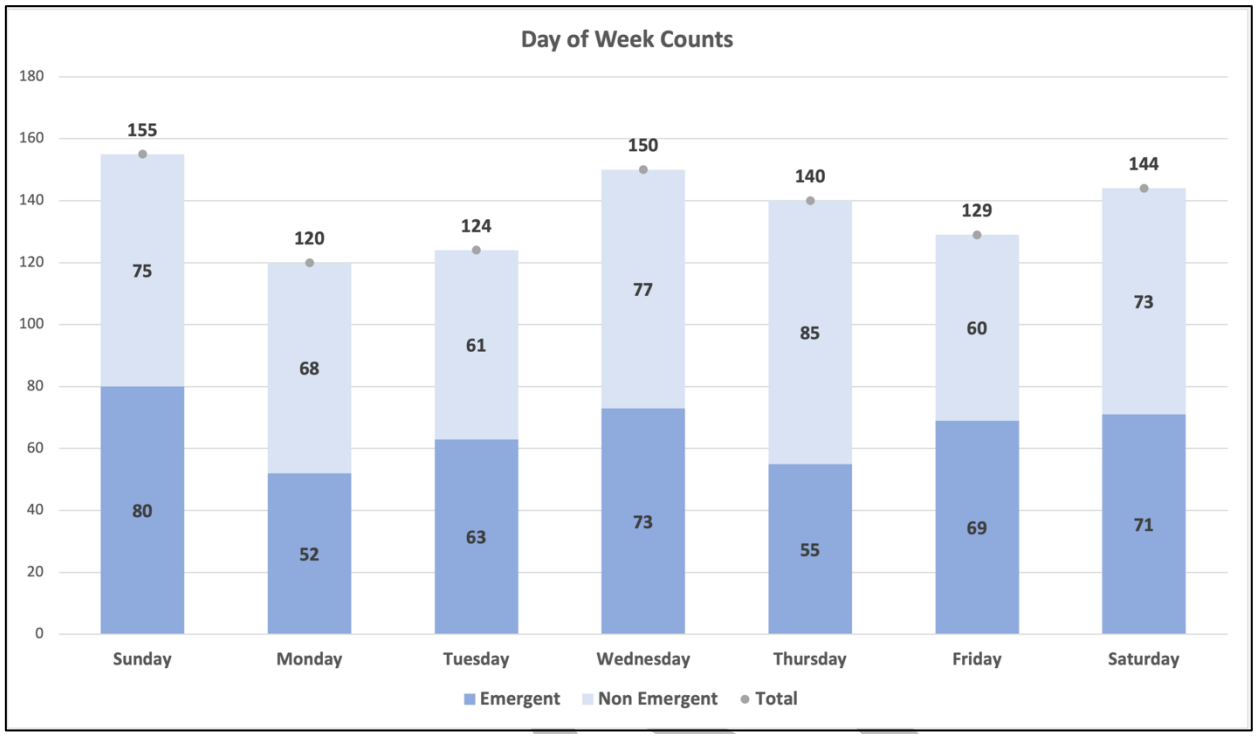


Chart 86 – Unincorporated SLCo Incidents by Day of Week

This chart demonstrates the call volume based on the day of the week, with an increase in all calls occurring on Sundays and Wednesdays and the peak volume for calls in Unincorporated Salt Lake County occurring on Sunday.

Unincorporated SLCo – 2020 Fire Incidents by Dispatch Type

NFIRS Description	Incident Count	% of Incidents
Structure Fire	8	16%
Natural Vegetation Fire	17	34%
Outside Rubbish Fire	2	4%
Mobile Property Fire	1	2%

NFIRS Description	Incident Count	% of Incidents
Vehicle Fire	20	40%
Special Outside Fire	1	2%
Fire, Other	1	2%
Total	50	100%

Table 141 – Unincorporated SLCo 2020 Incidents by Dispatch Type

Unincorporated SLCo – Building Occupancy Classification and Risk Categories

Occupancy Classification	Low	Moderate	High	Maximum	Total
Assembly	39	2	3	0	44
Commercial/Industrial	13	4	3	0	20
Educational	0	0	5	0	5
Government	3	1	0	0	4
Healthcare	0	0	0	0	0
Hazardous	Unknown	Unknown	Unknown	Unknown	11*
Storage	0	0	0	0	0
Residential	542	1,702	559	15	2,818
Residential – Multi Unit	64	9	3	2	78
High Rise	N/A	N/A	0	3	3
Total	661	1,718	573	20	2,983

*There is currently a gap within the identification of building size regarding hazardous materials sites. This is a gap that is being closed over the next several years as we collect the data and information.

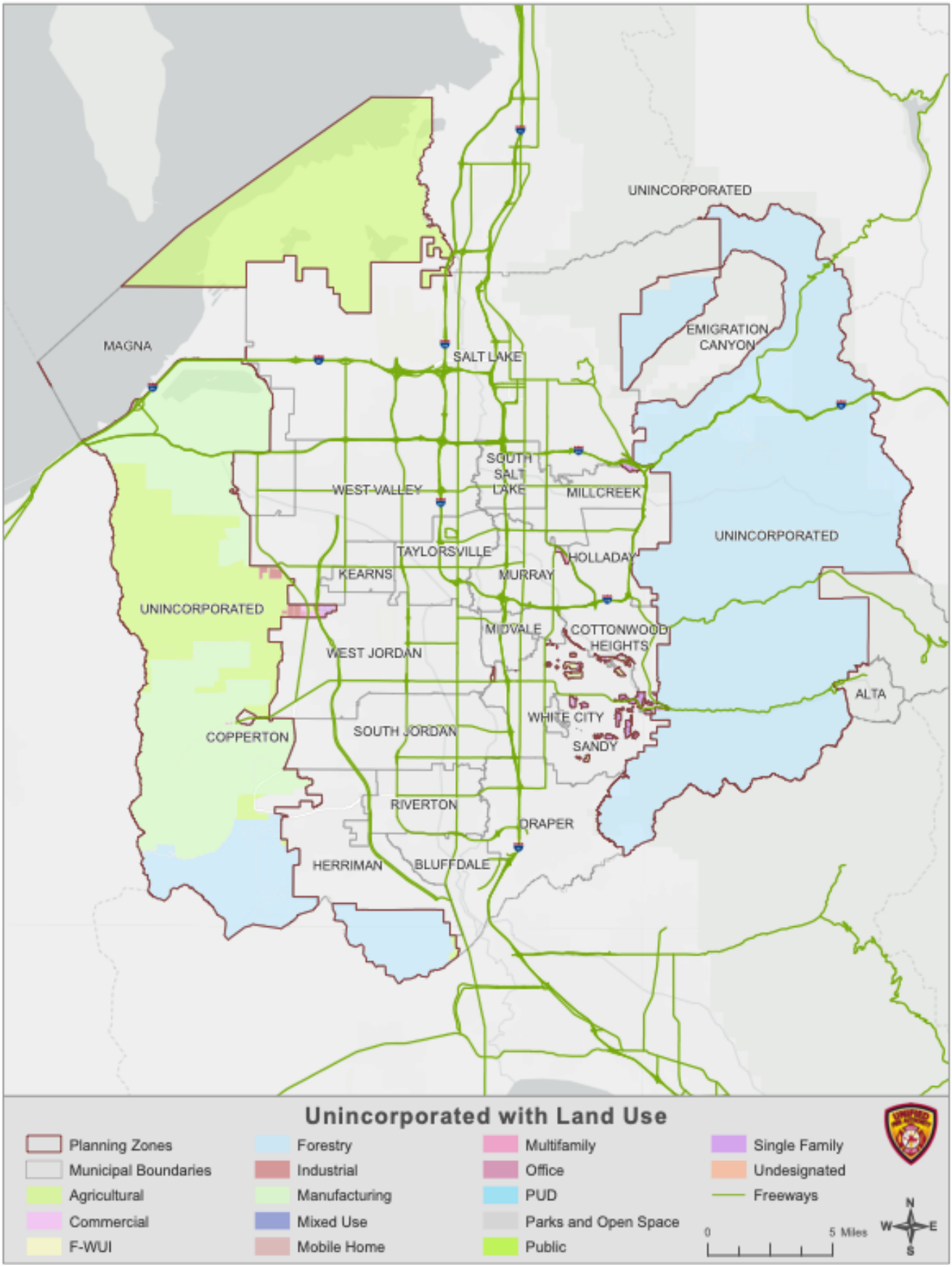
Table 142 – Unincorporated SLCo Building Occupancy and Risk Categories

Building Size / Considerations

For purposes of risk classification, UFA has outlined the following risk classifications for building size, regardless of occupancy type (except residential). Low risk = 1-4,999 square feet. Moderate risk = 5,000-9,999 square feet. High risk = 10,000-99,999 square feet. Maximum risk = >100,000 square feet.

For residential occupancies, the following classifications apply. Low risk = 1-1,999 square feet. Moderate risk = 2,000-3,999 square feet. High risk = 4,000-9,999 square feet. Maximum risk = ≥10,000 square feet.

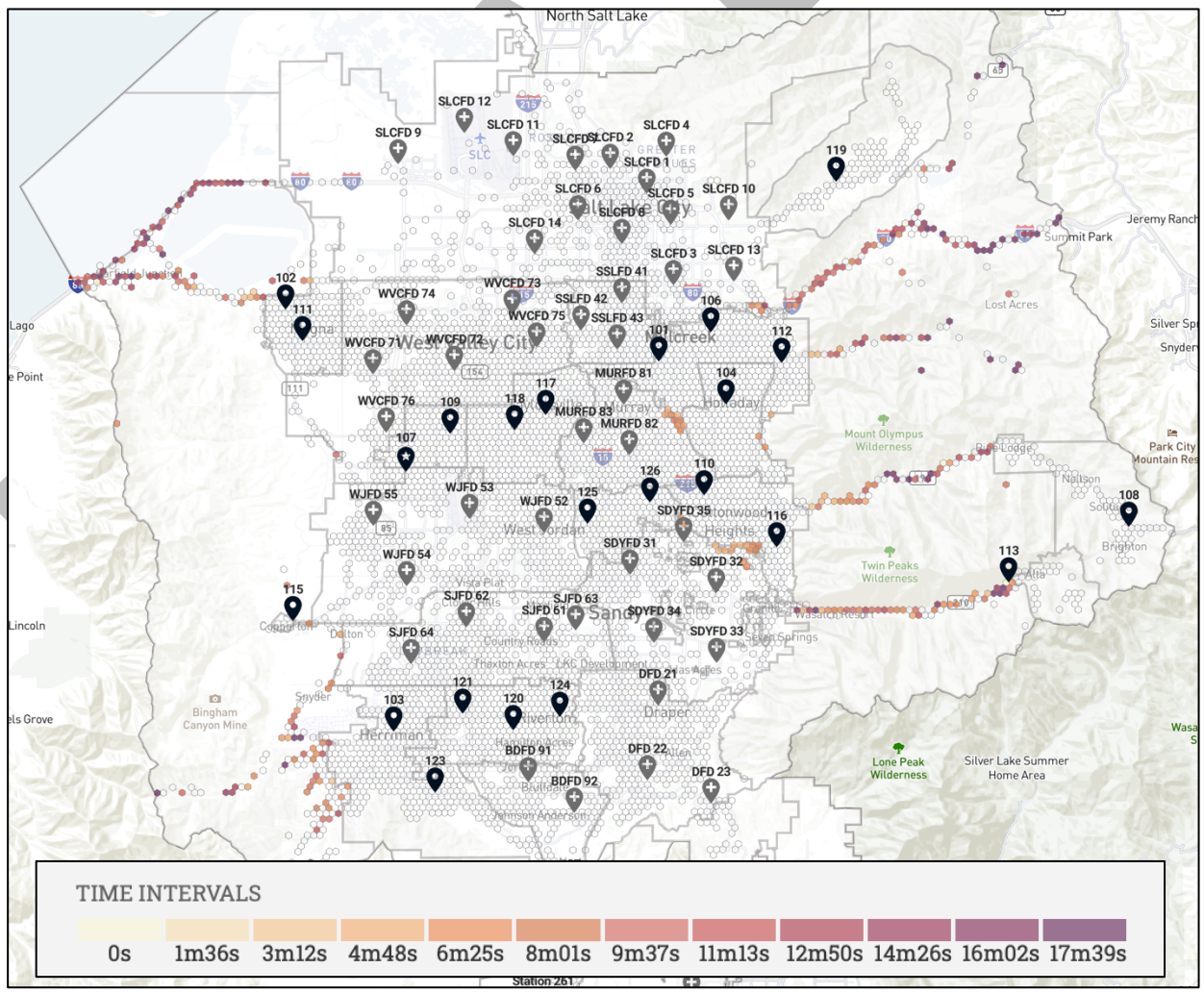
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Map 215 – Unincorporated SLCo with Land Use

Unincorporated SLCo – First Arriver Travel Times

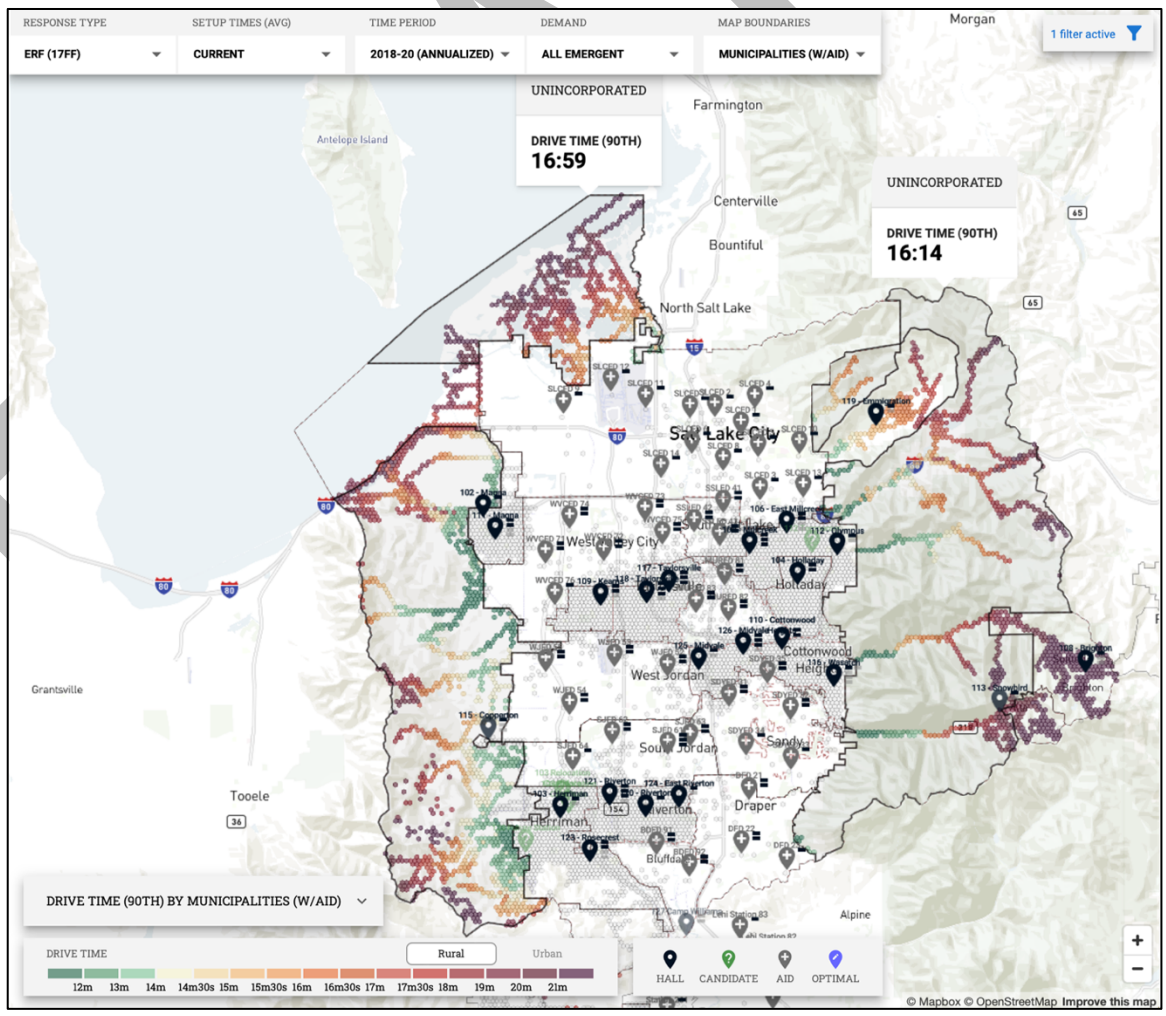
The following maps demonstrate the 90th percentile of travel times based off the last three years of historical data (2018-2020). The darker the color is, the more delayed the response, with the green and light colors demonstrating below or near target times. The darker colors on the bar within the key demonstrating longer travel times by apparatus. This map's drive times (or travel times) are based off the current NFPA 1710 standard of four minutes (90th percentile) from notification of the alarm to the arrival of the first arriving apparatus — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Currently, within the west portion of Unincorporated Salt Lake County, the 90th percentile drive time is 15:16 for fire and 14:26 for EMS, or a combined 90th percentile drive time of 14:52.



Map 216 – Unincorporated SLCo Response Times – All Aid

Unincorporated SLCo – Residential Fire Effective Response Force (17 FF)

This map demonstrates the coverage of a multi-unit response to a residential fire based on all apparatus being located within their station at the time of dispatch. The green to light yellow demonstrates the ability to have seventeen firefighters (a residential fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of eight minutes (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 17 firefighters) for a residential, low, or medium hazard occupancy — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 16:59 within the west area and 16:14 within the east area.

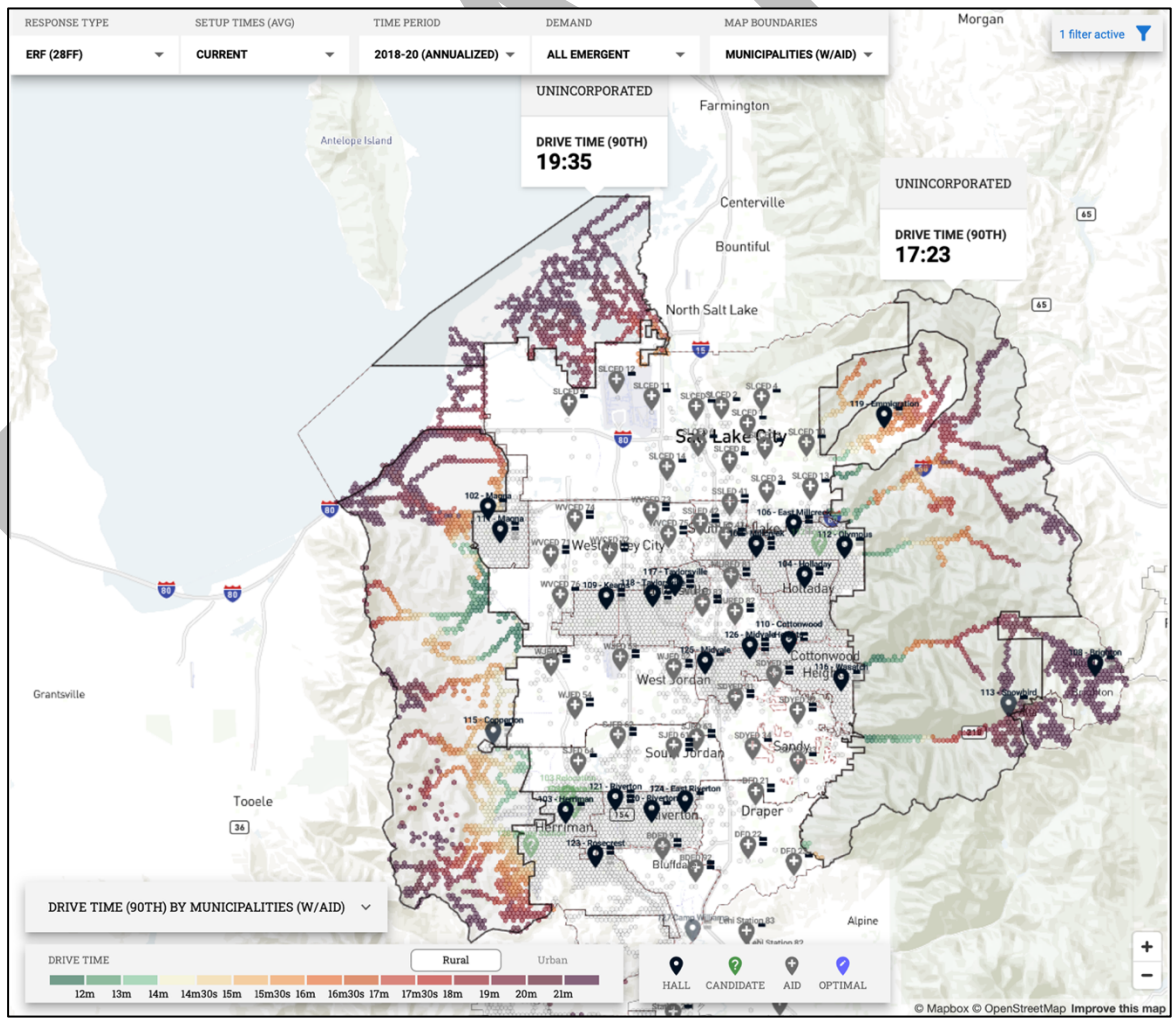


Map 217 – Unincorporated SLCo Response Times – Residential Fire Effective Response Force (17 ERF)

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Unincorporated SLCo – Commercial Fire Effective Response Force (28 FF)

The map below demonstrates the coverage of a multi-unit response to a commercial fire based off all apparatus being within their station at the time of dispatch. The green to light yellow demonstrates the ability to have twenty-eight firefighters (a commercial fire effective response force) on scene based off a residential urban fire force response. This map's drive times (or travel times) are based off the current NFPA 1710 standard of ten minutes and 10 seconds (90th percentile) from notification of the alarm to the arrival of the initial full alarm assignment (a minimum of 28 firefighters) for a commercial, high hazard or high-rise assembly — not an adopted standard by UFA. UFA is currently in process of identifying benchmark and target standards to be adopted by the UFA Board of Directors. Based off predictive data, it is projected that the 90th percentile for 17 firefighters to arrive on scene would be 19:35 within the west area and 17:23 within the east area.



Map 218 – Unincorporated SLCo Response Times – Commercial Fire Effective Response Force (28 FF)

Unincorporated SLCo Risk Assessments

Infrastructure – Transportation	Infrastructure – Dams	Earthquake Liquefaction	Earthquake Faults	Avalanche	Unreinforced Masonry	Wildland Urban Interface	Tier II Sites	Hospitals	Schools	≥100,000 sq ft Structures	Residential Population
High	High	Low	High	Mod	Mod (West) High (East)	High	Mod	Low	Low	Mod	Low

Transportation: Low Risk = 0-99 Linear Miles; Moderate Risk = 100-199 Linear Miles; High Risk = >200 Linear Miles
Dams: Low Risk = 0-3; Moderate Risk = 4-6; High Risk = ≥7
Liquefaction: The areas of liquefaction vary throughout the valley, with areas of high susceptibility running South and East from the Great Salt Lake
Earthquake Faults: Low Risk = 0-30,000 LF of fault line; Moderate Risk = 30,001-60,000 LF of fault line; High Risk = ≥60,001 LF of fault line
Unreinforced Masonry: Low Risk = 0-100; Moderate Risk = 101-1,000; High Risk = ≥1,001
Wildland Urban Interface: Low Risk = 0-25% WUI; Moderate Risk = 26-50% WUI; High Risk = ≥51% WUI
Tier II Sites: Low Risk = 1-5; Moderate Risk = 6-10; High Risk = ≥11
Hospitals: Low Risk = 0; Moderate Risk = 1; High Risk = ≥2
Schools: Low Risk = 0-5; Moderate Risk = 6-10; High Risk ≥11
100,000 sq ft Buildings: Low Risk = 0-5; Moderate Risk = 6-14; High Risk = ≥15
Population: Low Risk = 1-19,999; Moderate Risk = 20,000-39,999; High Risk = ≥40,000

Table 143 – Unincorporated SLCo Hazard Matrix

Infrastructure – Transportation

The primary roadways that run through Unincorporated Salt Lake County is I-80, which runs east/west on the northern side; U-201 which runs near parallel with I-80 on the west bench; State Road 190 up Big Cottonwood Canyon and State Road 210 up Little Cottonwood Canyon. There are 59.1 linear miles of Interstate/US Highway, 53 linear miles of State Highways, and 283.5 total linear miles of roadway. UTA also runs bus routes throughout Unincorporated Salt Lake County. Unincorporated Salt Lake County is in the high-risk category for road infrastructure.

Infrastructure – Water

There are several water districts within Unincorporated Salt Lake County. Copperton Improvement Water District; South Valley Sewer District; Cottonwood Improvement District; the Jordan Valley Water Conservancy District; the Mt Olympus Improvement

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District; the Emigration Improvement District; and the Big Cottonwood Canyon Improvement District.

Infrastructure – Dams

There are sixty-eight identified dams of various types and sizes within Unincorporated Salt Lake County. Unincorporated SLCo is in the high-risk category for dam infrastructure.

Natural Hazards

Within Unincorporated Salt Lake County, there are moderate concerns with avalanche areas, as most of the high-risk avalanche areas within this planning zone are in areas not close to any roads or traveled areas. There are several identified fault lines that run through the area, with roughly 118,913 linear miles of fault lines (see Map 8). Unincorporated SLCo is in the low-risk category for liquefaction and high-risk category for fault lines. One of the biggest hazards that occur within an earthquake scenario is the number of unreinforced masonry (URM) buildings. Within Unincorporated SLCo, there are an estimated 755 URM's, which constitutes about 3.07% of the overall URM's within UFA's response areas. Unincorporated Salt Lake County is in the moderate-risk category for unreinforced masonry on the west bench of the County and in the high-risk category for unreinforced masonry on the east bench of the County.

Wildland Urban Interface

There is high risk of urban interface fires within Unincorporated Salt Lake County, with nearly all the Unincorporated Salt Lake County areas abutting residential structures and urban areas, particularly as building continues to occur within the unincorporated areas. Unincorporated Salt Lake County is in the high-risk category for Wildland Urban Interface.

Hazardous Materials / Tier II Sites

There are ten identified HazMat/Tier II Sites within Unincorporated Salt Lake County, which places this threat in the moderate-risk category.

Hospitals

Unincorporated Salt Lake County has no hospitals. This places Unincorporated SLCo in the low-risk category for hospitals.

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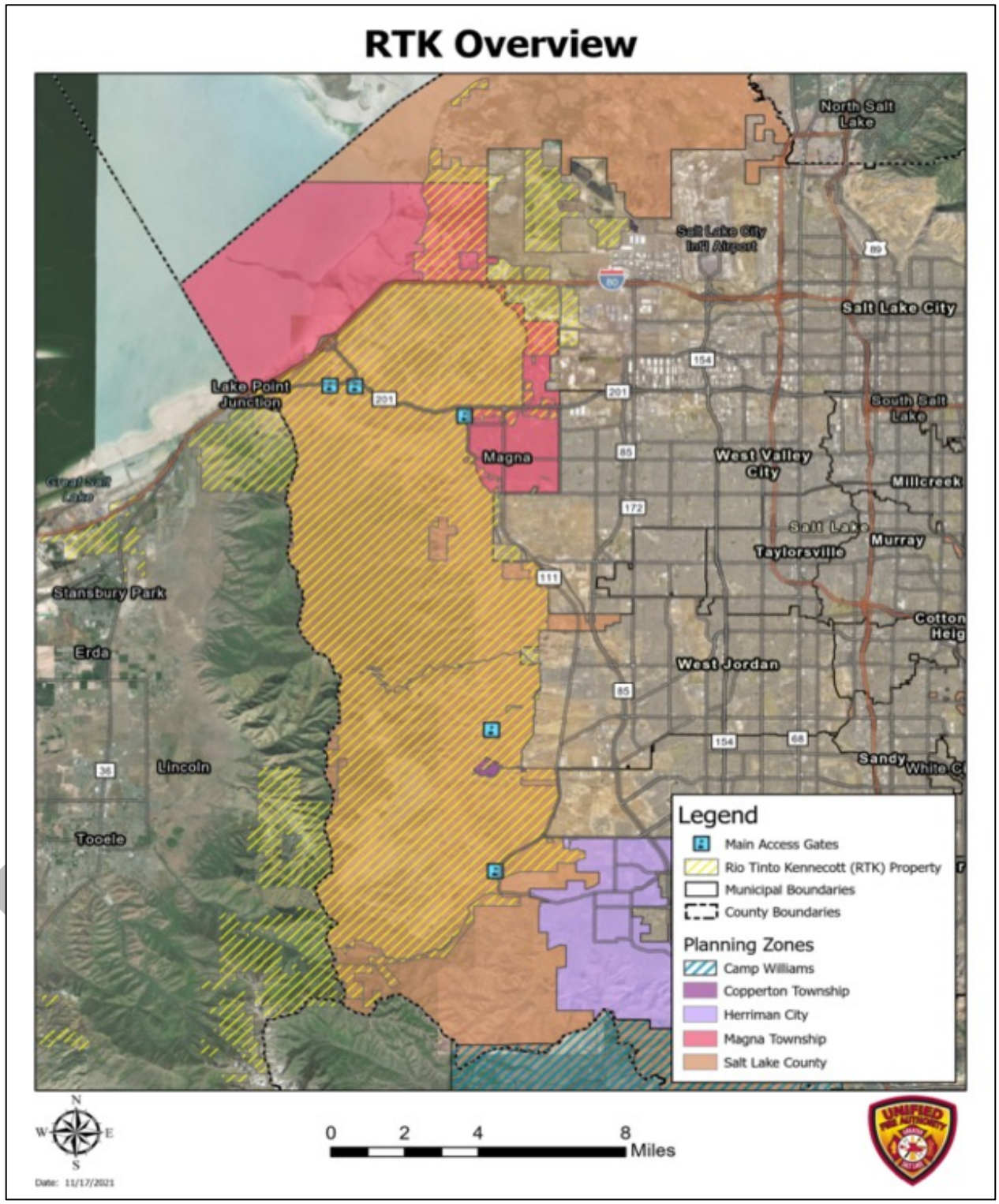
Schools

Unincorporated Salt Lake County has zero elementary schools, zero middle schools, and zero high school within city boundaries, which places it in the low-risk category.

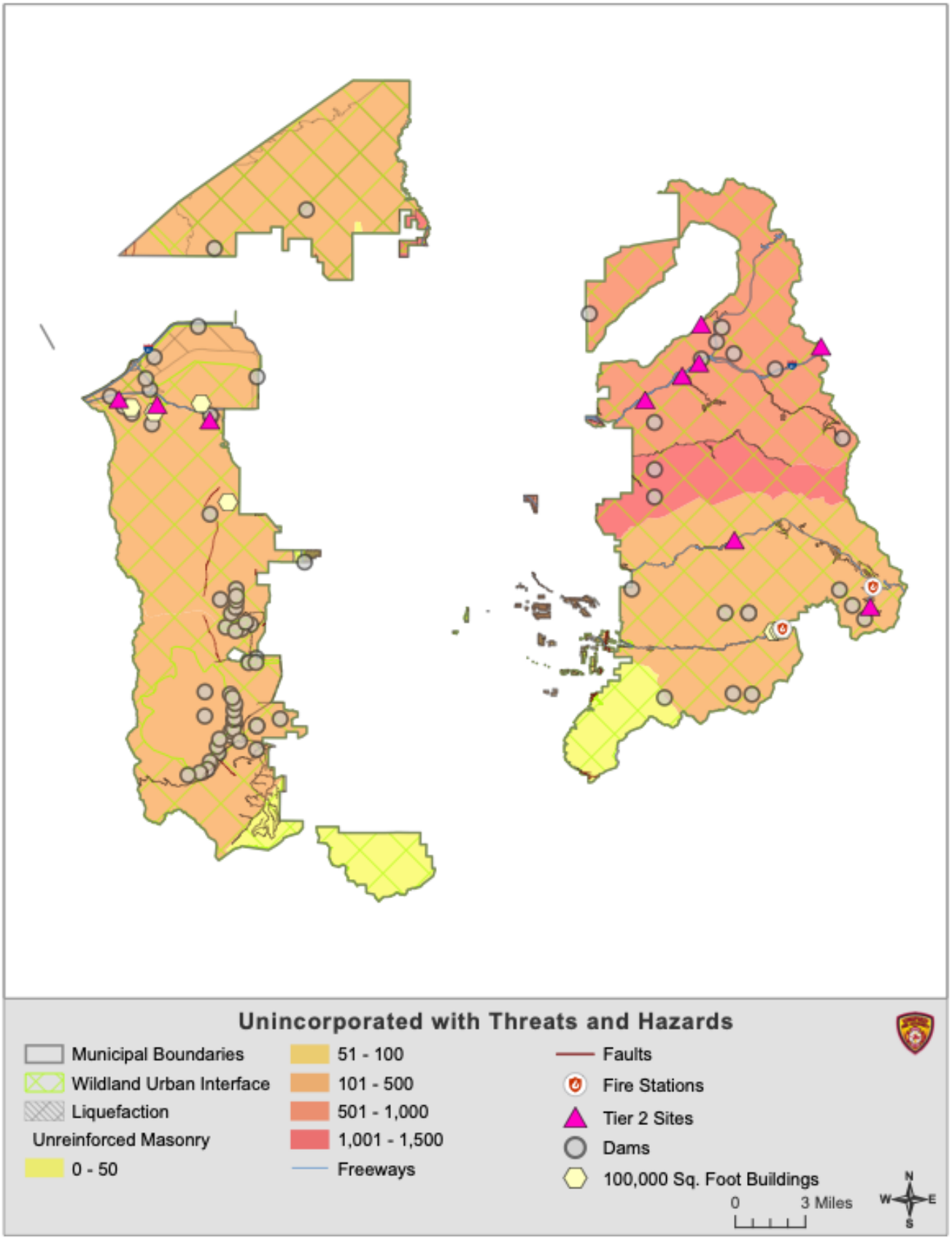
Rio Tinto Kennecott

Kennecott's Bingham Canyon Mine is the largest man-made excavation, and deepest open pit mine in the world. The mine operates 24 hours a day, 365 days a year. The overall operation includes the mine, a concentrator plant, a smelter, and a refinery, which are spread out on the west side of the service area of Unincorporated Salt Lake County. Response to the operation includes medical, fire, hazmat and technical rescue incidents.

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Map 219 - Rio Tinto Kennecott Property



Map 220 – Unincorporated SLCo with Combined Hazards

Life and Property Loss

From 2015-2020, there have been zero fatalities attributed to fire. There is a gap in identifying both property and content loss, as all fires are assigned to the first arriving unit as well as the fire zone, as opposed to Unincorporated Salt Lake County, as there has not been a distinction made between response zones and a dedicated fire management zone for Unincorporated Salt Lake County. Additionally, the vast majority of fires in Unincorporated Salt Lake County are wildland incidents.

Unified Fire Shared Services

With a regional-response model, the Unified Fire Authority brings special services to bear when the situation calls for it, not relying on automatic or mutual aid which provides a quicker and more effective delivery of service to its residents.

Battalion Chiefs

Unified Fire Authority staffs three operational battalion chiefs (BCs) daily, in addition to a 40-hour Operations Chief (OC). These BCs and OC respond to large, complex, or expanding incidents — providing incident command, safety, and operational direction. Each BC covers an area of UFA's service area and responds to calls for service in any jurisdiction. Battalion 11 is housed out of Station 101 in Millcreek, Battalion 12 is housed out of Station 121 in Riverton, and Battalion 13 is housed out of Station 118 in Taylorsville.

Heavy Rescue Companies

Heavy Rescue specializes in structural collapse, confined space rescue, trench collapse rescue, vehicle extrication, machinery disentanglement, rope rescue (high angle, low angle, rigging) and rapid intervention (Firefighter Rescue). The UFA Heavy Rescue Program consists of two independent rescue companies strategically placed in UFA's jurisdiction. Station 117 in Taylorsville, and Station 121 in Riverton house our Heavy Rescue Teams.

Hazardous Materials (HazMat) Companies

The Hazardous Materials Teams provide an efficient, effective, and professional Hazardous Material Mitigation response. HazMat Companies respond to hazardous material releases/spills for the purpose of mitigating the release/spill. They select and

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use proper specialized chemical personal protective equipment dependent on the nature of the incident. The HazMat Program consists of two independent HazMat companies strategically placed in UFA's jurisdiction. Station 124 in Riverton, and Station 126 in Midvale house our HazMat Teams.

Water Rescue Teams

UFA has swift water and ice rescue capabilities. These companies respond to victims recreating in our swift canyon rivers and our lakes and reservoirs. Station 116 in Cottonwood Heights, Station 117 in Taylorsville, Station 121 in Riverton, and Station 123 in Herriman house companies with water rescue capabilities.

Wildland Division

UFA's Wildland Division provides highly trained and experienced wildland fire and all-risk response resources to local, state, and federal incidents. The Wildland Division oversees the training and certification of UFA personnel for response to wildland fires and all-hazard incidents. We also work with UFA Communities to educate residents on wildfire preparedness and provide mitigation services to reduce the risks of wildfire. UFA has a special capability where a Duty Officer is able to act as the Fire Warden within UFA's jurisdictions, allowing the ordering of resources much more quickly than having to rely on a Fire Warden that may or may not be readily accessible. Station 103 in Herriman currently houses the Duty Officer.

Other Locations and Services

UFA Logistics and Utah Task Force 1



Image 28 - UFA Logistics and UTTF1 Warehouse

UFA is the sponsoring agency for Utah Task Force 1 (UTTF1), is one of 28 federally funded Urban Search & Rescue (US&R) Teams. UTTF1's logistical cache is located in the same warehouse as UFA's Logistics Division, located at 6726 West Navigator Drive in West Jordan City. UFA's Logistics Division is responsible for maintaining all of UFA's facilities, stations, and apparatus.

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UFA Special Enforcement Division



Image 29 - UFA Station 107, Special Enforcement Division

UFA has its own bomb squad and arson investigators that do any warranted investigations into origin and cause of any fire. There are currently five full-time investigators and one part-time investigator, and they are housed at UFA's Fire Station 107, located at 6305 South 5600 West, a previous UFA fire station that was no longer in an ideal response location. UFA's bomb technicians and arson investigators respond as requested throughout Salt Lake County as well as state-wide through a memorandum of understanding (MOU) within the State of Utah. UFA also participates in the FBI's Joint Terrorism Task Force (JTTF) with two investigators.

	CY 2020	CY 2019	CY 2018
Arson Investigations in UFA	197	156	214
Bomb Responses	65	45	55
UFA Fatal Fires	1	2	0
Bomb Squad SWAT Assists	4	11	6
Explosive Detection K9 Deployments	33	24	29
Accelerant Detection K9 Deployments	33	24	29
Forensic Blood Draw	18	11	N/A
FBI JTIF/Counter IED Case	3	2	0
UFA SWAT PM Deployment	104	77	54
Multi-Jurisdictional Directed Enforcement Operation Support	4	4	4

Chart 87 - Special Enforcement Responses

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Information Outreach

UFA has an Information Outreach Division that has six personnel, three civilian staff and three sworn staff. They have offices in both Station 126 and the Emergency Coordination Center (ECC). They coordinate all of UFA's external informational outreach, including public safety messaging, media releases and requests, and on-site incident PIO responsibilities.

Fire Training Division



Image 30 - UFA Training Tower

UFA has a fire training division that is located at UFA's Fire Training Tower, located at 3900 South 8000 West, Magna. UFA's Fire Training Division provides all training for new firefighter hires as well as continued training for all full- and part-time UFA firefighters. The training division has a six-story training tower on a fourteen-acre site, which also houses Utah Task Force 1's US&R rubble pile.

Medical Training Division

UFA has a medical training division that is located out of UFA headquarters and Salt Lake County's Emergency Communication Center (ECC). UFA provides basic life support (BLS) and advanced life support (ALS) functions. The medical training division provides all initial and ongoing training to its personnel that meet all standards from the Utah Bureau of Emergency Medical Services (BEMS) and national registry requirements.

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Salt Lake County Emergency Management

UFA has a charter from Salt Lake County Government whereby UFA provides emergency management (EM) within Salt Lake County. EM helps to manage risks within communities and the environment by putting plans into action and mitigating both perceived and real threats that communities face.

The Salt Lake County Emergency Coordination Center (ECC) and UFA's headquarters is



Image 31 - SLCo Emergency Coordination Center and UFA Headquarters

co-located at 3380 S 900 W.

The Salt Lake County Division of Emergency Management serves citizens by directing and coordinating resources for disasters and emergencies through preparation, planning, mitigation, response, and recovery. The Salt Lake County Emergency Coordination Center (ECC) is activated and manned during any event—from small-scale to large-scale occurrences—to disasters, both natural and man-made that can or have exceeded the resources of any jurisdiction. Currently, the Salt Lake County ECC

assists and obtains resources for the 23 jurisdictions located within the Salt Lake Valley. EM assists these jurisdictions through the activation of 15 Emergency Support Functions (ESFs) filled by employees from a multitude of backgrounds. The ESF employees have authority throughout Salt Lake County to fill and order additional support for the operations occurring in the field until the impacted jurisdiction can return to normal operations and functions. The Emergency Management Division is committed to keeping the public safe through community outreach, training, dissemination of important public information, training of staff, and the creation of a more resilient community through mitigation, preparation, response, and recovery. The ECC has activated for several events such as the COVID-19 pandemic response, Magna earthquake, straight-line windstorm, civil unrest, wildland fires such as the Rosecrest and Machine Gun fires, flooding, hurricanes, Line of Duty Deaths (LODD), and many other events.

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Unified Fire Authority

3380 South 900 West
Salt Lake City, UT 84119

Section 3 –
Standards of Cover



Unified Fire Authority

Section 3 – Risk Assessments and Standards of Cover

Risk Assessment & Risk Levels

UFA provides all-hazard risk mitigation to the various communities through planning, preparation, prevention, training, exercise, and response. A detailed analysis of risk factors specific to UFA and the Salt Lake Valley was conducted to determine the various risk factors for the community risk assessment – standards of cover (CRA-SOC). The evaluation of the community risk factors included the assessment of each community's demographics and development, review of fire planning zones (PZ), a review of mitigation factors and plans in place, and hazard profiles (natural and human-caused).

Risk assessment can be quantified by measuring the following three variables:

1. **Probability of Occurrence** – The measurement of the frequency of an event based on historical occurrence.

2. **Consequence to the Community** – The measurement of the relative impact to the community when the event occurs. This could include impact to an individual, a group, infrastructure, the environment, or the economy.

3. **Impact to the Organization** – The measurement of organizational commitment to an incident when it occurs. Organizational commitment means how many and what type of resources are engaged in incident management and for how long they must be committed.

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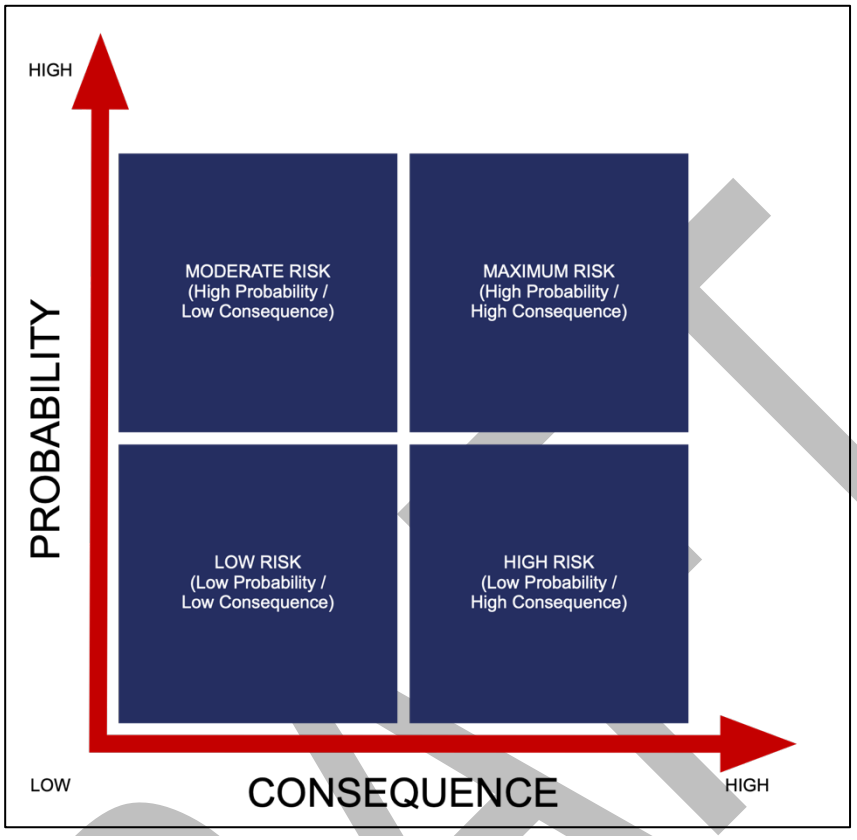


Chart 88 - Probability vs Consequence Graph

When conducting an analysis, it is important to consider consequence severity as it applies to individual or group life safety, economic consequences, and environmental consequences. For example, a vehicle fire is high in probability, but generally low in consequence, so it receives a single company response. However, if that vehicle fire were to occur in a parking garage or on a freeway, the consequences could be more widespread. Once probability, risk to community and impact to organization are quantified, each type of incident that UFA responds to can be plotted on either a two-dimensional or a three-dimensional graph which aids in comparing the relative severity of different incident types. The three-axis models and risk assessments can be found in Appendix B.

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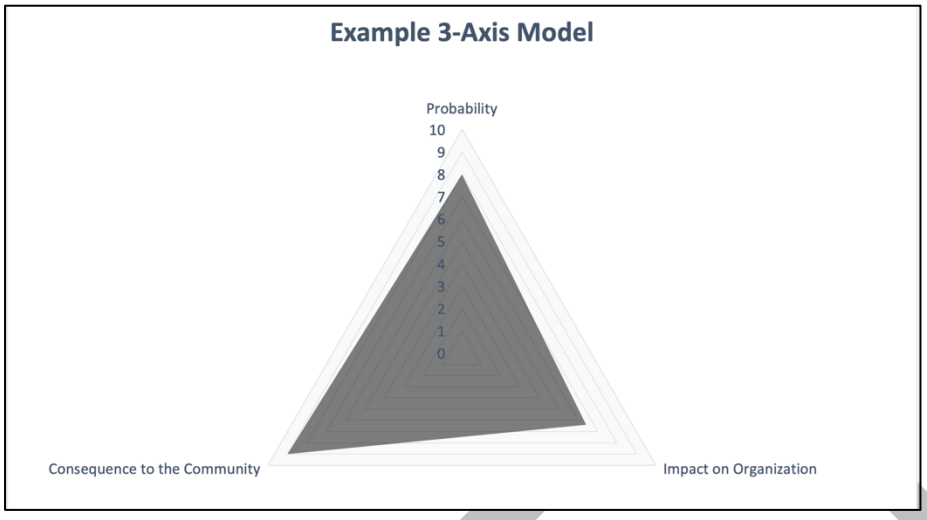


Chart 89 - Example 3-Axis Model for Community Risk

Risk Analysis Factors:

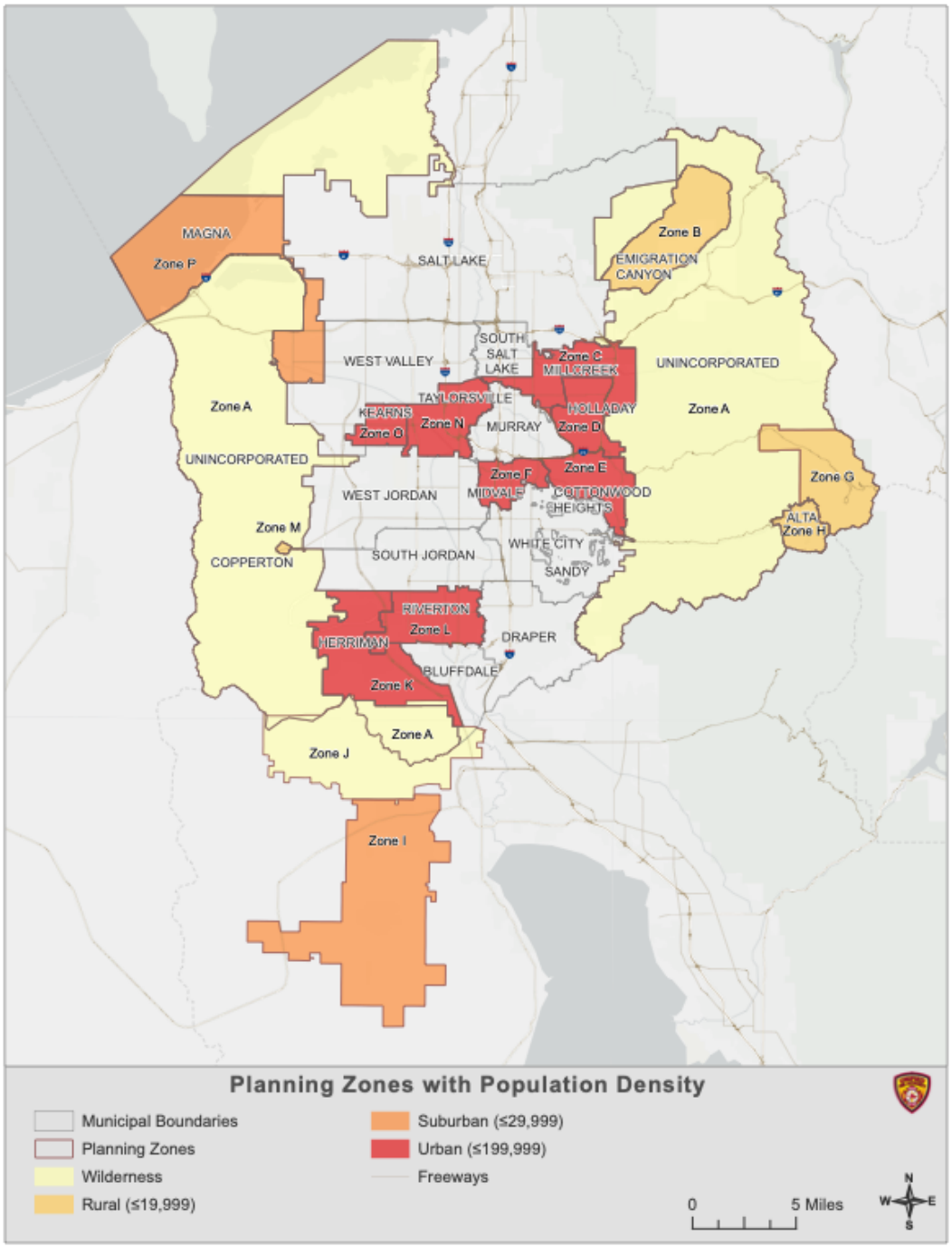
The following are elements and tables describing how common risk factors are quantified:

1. Population Density

Population density is a critical component when considering both an incident's potential consequences and the probability of occurrence. A wildland fire in a wilderness area, for example, has significantly different impacts than a wildland-urban interface fire burning near high-dollar value residential homes and the likelihood of a wildland fire occurring in the first place is very low in high density urban areas. Unified Fire Authority covers Urban, Suburban, Rural and Undeveloped/Wilderness areas identified on Map 180 – Planning Zones with Population Density. UFA currently does not have any jurisdictions with the Dense Urban classification.

Population Density	Description	Risk Score
Undeveloped/Wilderness	Not Developed / Uninhabited	2
Rural	<500 persons per square mile	4
Suburban	500-1,000 persons per square mile	6
Urban	1,001-2,999 persons per square mile	8
Dense Urban	>3,000 persons per square mile and population over 200,000	10

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Map 221 - Planning Zones with Population Classifications

2. Probability of Occurrence

Incident Probability	Description	Risk Score
Quarterly/Yearly	0-4 occurrences per year	2
Monthly	5-12 occurrences per year	4
Weekly	13-15 occurrences per year	6
Daily	16 – 365 occurrences per year	8
Greater than daily	366 or more occurrences per year	10

3. Impact on the Organization

Organizational Impact	Description	Risk Score
Low	Less than 4 persons	2
Medium	5 – 9 persons committed	4
High	10 – 16 persons committed	6
Very High	17 – 26 persons committed	8
Extreme	27 or more persons committed	10

4. Consequence to the Community Consideration

Community Consequence	Description	Risk Score
Low	Single Individual or Vehicle	2
Medium	2-4 persons, 2 vehicles, single residential or commercial occupancy	4
High	5 or more persons, 3 or more vehicles, 2 residential or commercial occupancies	6
Very High	Multi-family occupancies, institutional structures, strip malls or box stores	8
Extreme	Mass Casualty, Major Hazard or Natural Disaster	10

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5. Building Size – Commercial and Residential

Commercial Building Risk	Description	Risk Score
Low	1 – 4,999 square feet	2
Medium	5,000 – 9,999 square feet	4
High	10,000 – 99,000 square feet	6
Very High	Greater than 100,000 square feet	8

Residential Building Risk	Description	Risk Score
Low	1 – 1,999 square feet	2
Medium	2,000 – 3,999 square feet	4
High	4,000 – 9,999 square feet	6
Very High	Greater than 10,000 square feet	8

Deployment Considerations

UFA utilizes a Computer Aided Dispatch System (CAD) provided by VECC for call handling and dispatching. Once a location has been determined and basic details identified, a dispatcher at VECC sends out a digital dispatch while the rest of the details are being identified. UFA is currently in the process of a radio-less dispatch system, to where a unit will go en route, arrive on the radio and terminate command. Everything else is supposed to be done via mobile data terminal (MDT).

In March of 2021 UFA—with all other valley agencies—has implemented a priority dispatch system. With a priority dispatch, if it is a priority 1 (higher severity with critical life-safety issues at hand), the nearest units are dispatched via AVL. This dispatch occurs regardless of jurisdictional boundary with both the BLS and ALS units. Due to UFA's one-and-one ALS model, regardless of which unit is dispatched, there is ALS capability. This is not the same with all of UFA's mutual and automatic aid partners. A priority 2 dispatch will dispatch agency-specific heavy apparatus and ambulance within each respective jurisdictional boundary.

Critical Task Analysis

UFA's goal is to provide those fire and rescue services to the communities it serves in addition to matching the needs and desires of the citizens within those communities. The primary foundation of UFA's response level is NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and

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Special Operations to the Public by Career Fire Departments. NFPA 1710 outlines tasks for each risk classification and category.

A critical element in the assessment of any emergency service delivery system, is the ability to provide adequate resources for anticipated fire combat situations, medical emergencies, and other anticipated events. Each emergency requires a variable amount of staffing and resources to be effective. Properly trained and equipped fire companies must be notified, respond, arrive, and deployed at the event within specific timeframes and in proper numbers in order to mitigate the event.

The review of any given critical task analysis (CTA) identifies the tasks necessary at any given incident to ensure life safety, incident stabilization, property conservation, and mitigating environmental concerns. All operations that UFA responds to need to have a critical evaluation based on past, historical events, as well as anticipated needs based off of the identified risk matrices that UFA uses within the communities and across the organization as a whole.

Regardless of which incident type and kind UFA responds to, UFA is expected to properly identify and mitigate any emergent situation it encounters. The reported or encountered problem, or any specialized services needed, will possibly add companies and apparatus to assist those first arriving units to properly and safely mitigate those incidents. Regardless of incident type, UFA expects any first arriving 3- or 4- person company to have the capability to:

- Size-up the situation
- Establish command
- Operate one fire suppression handline
- Comply with NFPA 1500 and OSHA 1910.134 (two-in, two-out rule)
- Provide initial emergency medical care for a single patient or initiate proper triage for multiple medical patients
- Initiate mitigation and/or fire suppression efforts within one minute of arrival
- Initiate mitigation, isolation, and/or evacuation in the event of a hazardous materials release
- Identify any additional resources needed, based on call type and anticipated expansion

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Although this list is identified, it is not all-inclusive nor an order which time-critical events may occur. All items and/or tasks are assigned by the first arriving Incident Commander (IC). The critical tasks described below assume that the crews are committed to those assigned tasks and would not be available for reassignment, until after the balance of the incident arrives on scene. Time performance standards associated with accomplishing each critical task are not included in this analysis.

For all Critical Task Analyses, refer to Appendix A.

Services & Effective Response Force

UFA provides initial response and some ongoing management services related to the following incident types:

1. 911 Emergency Medical Services (EMS)
2. Fire suppression - structure or vehicle
3. Wildland fire response, suppression, and management
4. Hazardous Material response (HazMat)
5. Technical rescue including vehicle extrication, rope rescue, trench rescue, confined space rescue, water rescue, ice rescue and large area search
6. Bomb/Explosive device response
7. Arson investigation
8. General emergency management including response to natural disasters
9. Fire prevention

Each type of incident requires a specific Effective Response Force (ERF) for meeting service and response standards. The ERF is established by evaluating critical tasks that must be completed on a type of incident and then identifying the number and type of people or equipment necessary to perform those critical tasks. Critical task analysis and effective response forces are all based on industry standards at the local, regional, and national levels as well as best practices identified by subject matter experts. Industry

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standards and best practices are subject to change as technologies improve, new challenges arise, research is performed, and priorities change.

Initial incident response should be established with the goal of providing sufficient personnel and equipment to mitigate about 90 percent of the calls within that identified category (i.e., medical, structure fire, HazMat, etc.).

An “upgrade” response indicates personnel/functions and apparatus/equipment that is in addition to the basic response package and is typically utilized to manage the approximately 10 percent of calls not addressed by the initial responding unit(s).

Emergency Medical Services

911 Emergency Medical Service (EMS) calls are some of the most dynamic and time critical responses to which Unified Fire Authority responds. These calls represent approximately 70-80 percent of all UFA responses. In some states, emergency medical response is provided by private industry or hospital-based medical responders. The State of Utah utilizes fire-based EMS response almost exclusively. Because Unified Fire Authority equipment and personnel is strategically located in communities and staffed twenty-four hours a day, three hundred and sixty-five days a year, we are best equipped to respond to emergency medical services within our response area. Speed of response to EMS incidents can be a critical factor for saving lives in the pre-hospital environment, however, once appropriately trained EMS providers arrive on scene, service provision should be measured based on clinical guidelines and outcome measurements. One such set of system measures has been established by the National EMS Quality Alliance (NEMSQA) and is based on evidence-based medical care guidelines.

EMS calls are typically divided into 2 general categories: Basic Life Support (BLS), and Advanced Life Support (ALS).

Each request for service is “coded” by the 911 dispatch system to establish a general type of call and priority. For example, a ground level fall with no obvious injury is a priority 2 short fall. A rock climber who takes a 30-foot fall from a cliff would be a priority 1 long fall. Priority 2 calls typically require only BLS level care while priority 1 calls represent

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incidents that potentially have immediate threats to life which may require advanced life support interventions. 911 call coding is certainly not an exact science and so many calls initially coded as priority 1 are actually less critical and calls initially coded as priority 2 may actually reflect an immediate threat to life or health.

For a number of reasons, information communicated by the complainant to the 911 call taker and then to EMS responders may not be accurate especially when it comes to coding. Some of these reasons may include the need to gather information quickly in order to expedite call processing time, the fact that complainants are communicating information under duress, that call takers and complainants may not have medical training, or the presence of a language barrier.

Because a request for emergency medical service may often be more or less severe than initially estimated, may be critically time sensitive, and may evolve in highly dynamic, stressful, and often dangerous environments, it is necessary to build a response system that is capable of adapting to different call types and severities in spite of limited or inaccurate initial information. This is part of the reasoning of the new dispatch model of priority dispatches that UFA and surrounding agencies established in March of 2021.

Patient care support includes the critical tasks of lifting and moving an immobile patient, call documentation and providing additional concurrent medical or scene interventions as outlined by UFA's Medical Director in standing orders (protocols) which seek to apply proven best practices for pre-hospital medical care. Medical licensure or certification levels for responders and apparatus/equipment are determined administratively and must meet Utah Bureau of EMS licensure requirements.

Incidents per Type with Risk Category	CY 2020	CY 2019	CY 2018	Total
EMS Response				
Low	9,589	9,855	9,402	28,846
Moderate	973	759	911	2,643
High	60	11	13	84
Maximum	0	1	1	2
EMS Emergency Total	10,622	10,626	10,327	31,575

Table 144 - EMS Responses with Risk Categories

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The NFPA 1710 standard requires minimum EMS response capability of first responder/AED or as specified by the Authority Having Jurisdiction (AHJ). All UFA firefighters are trained, at a minimum, to the Emergency Medical Technician-Basic (EMT-B), or Basic Life Support (BLS) level. UFA currently has approximately 190 EMTs and 90 Advanced EMTs (AEMT). UFA also provides Advanced Life Support (ALS) services by staffing and positioning Paramedics on apparatus throughout the response area. Paramedic level service is the industry standard for all but undeveloped or rural populations. UFA currently staffs at least one paramedic on every front-line response apparatus. Currently, UFA has approximately 280 employees licensed at the paramedic level as of July 2022.

In addition to EMS response, UFA provides 911 emergency medical transport services within the response area through eleven 24-hour staffed ambulances and two “peak-load” 12-hour staffed ambulances.

EMS Upgrades

As noted above, medical calls are coded as to type and priority by the 911 call taker. Two medical call types that benefit from pre-established upgrade “packages” are motor vehicle accidents (MVA) where extrication of the patient from a damaged vehicle is necessary and multiple casualty incidents (MCI) where there are more patients requiring medical assessment or care than there are providers. Some motor vehicle accident types often require additional equipment and personnel in order to make a scene safe for the provision of medical treatment and also to access the patient.

Multiple Casualty Incidents

Responders and call takers must rely on 911 call questioning to determine the number of patients that may be present. In a multiple casualty situation, the range of severity of patients may be broad. These responses are the most complicated EMS calls for service.

An increasingly likely scenario in today’s society is a multiple casualty incident related to an active shooter, active killer, or terrorist incident. These types of incidents require law

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enforcement intervention for situational stabilization, however, rapid EMS intervention that can be taken prior to threat neutralization has been shown to save lives. A team of EMS responders integrated with a law enforcement “force protection” component is termed a “Rescue Task Force” (RTF) and requires additional safety equipment and personnel. This safety equipment is placed on apparatus based on administrative capabilities and requirements. This type of response is one of the most highly dynamic scenarios imaginable and as such is dependent almost entirely on the skill and training of responding officers and EMS providers.

Fire Suppression – Structure & Vehicle

911 fire responses include a wide variety of incidents where some item may be or suspected to be on fire. Fire responses are less prevalent than 911 EMS responses. Fire responses include fires that involve structures, contents within or adjacent to structures, vehicles, and wildland areas to name a few. The modern fire environment can be severely damaging and can develop rapidly. Response time is a critical factor in fire response as addressing a fire early in its development by rapidly deployed and effectively training resources can significantly reduce the likelihood of fire growth, reduce the need for a large number of responders, reduce property damage and reduce the likelihood of injury to both Firefighters and the public.

Unified Fire Authority’s service area includes a wide range of fire environments including historical, modern, residential, commercial, industrial, and wildland/urban interface. Each of these fire environments present unique challenges and potentially require specialized training and equipment for safe and effective response.

For these reasons it is critically important to provide an initial response that is appropriate to the type of fire that is reported. A single engine company dispatched and responding quickly, for example, can eliminate the need for a full structure or wildland fire response by controlling a small fire rapidly. For this reason, fire response must include rapid, initial dispatch of minimally required resources with the ability for initial responding officers to upgrade the response based on further caller details or the environment present on scene.

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Unified Fire Authority's fire response profile emphasizes rapid deployment of the closest available cross-trained resources with a "menu" of response upgrades to meet the anticipated strategic and tactical needs of developing incidents. Critical initial response benchmarks for structure fires include whether there is a confirmed fire and if that fire involves a structure or contents near or within a structure. The critical initial benchmark for a wildland fire is the reported potential for large fire growth (Wildland/Urban Interface vs. Field Fire).

	CY 2020	CY 2019	CY 2018	Total
Fire Suppression Incident Counts by Risk Category				
Low	585	1,002	611	2,198
Moderate	626	313	284	1,223
High	178	258	253	689
Maximum	12	12	15	39
Fire Suppression Total	1,401	1,585	1,163	4,149

Table 145 - Incidents by Risk Category – Fire Suppression

The various tasks associated with fire suppression activities include rescuing trapped victims, ventilation of superheated gases and smoke, and firefighting and suppression tactics to limit property damage. Initial UFA recruit training meets or exceeds the standards set forth in NFPA 1001: Standard for Fire Fighter Professional Qualifications.

Fire development within modern structures is evolving and becoming more challenging due to utilization of hydrocarbon-based furnishings, interior finishes and lightweight energy efficient construction methods. The modern structure fire environment that typically includes hydrocarbon-based furnishings and interior finishes, results in exponential fire growth, creating a volatile and deadly interior fire environment. Off-gassing of materials due to heating of the fire results in rapid flame spread, high heat release rates and the development of large volumes of toxic and flammable smoke. These dangerous factors result in dramatically reduced survivability for occupants remaining in the structure and increased danger and risk to firefighters.

The variables of fire growth dynamics along with life and property risk combine to determine critical fireground tasks. The integrated tasks which present competing priorities on the fireground are divided into two basic functions: fire suppression and/or

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rescue. Suppression tasks are those related to extinguishing burning material while rescue tasks are those related to locating and removing trapped occupants from the structure.

Fire suppression tasks are generally accomplished with hand-held hose lines or master stream devices, either portable or fixed to a fire apparatus. The decision to utilize handheld hose lines or master stream devices depends upon the size of the fire, water supply, and available personnel. During certain early stages of fire growth, Firefighters can make an offensive fire attack utilizing handheld hose lines. Properly positioned and supported hose lines can quickly suppress a fire, limit, or delay fire growth, and dramatically reduce existing heat and smoke, all of which can protect occupants until they can be safely rescued from the environment. Once a fire has established itself within a structure and grown to a certain level of intensity, larger hoselines or master stream devices, both of which require additional personnel to operate effectively, must be utilized for extinguishment and control.

If the fire is in the post-flashover stage and has extended beyond the capacity of mobile handheld hose lines, or if fire involvement and/or structural damage is a threat to Firefighter safety, the structure is typically declared lost. In these situations, defensive master streams and exterior hose lines are deployed to extinguish the fire and keep it from extending to nearby exposed structures. The ultimate goal of a fire suppression system is to staff and position an ERF to be able to attack a fire before a structure is declared lost and rescue occupants before the environment becomes un-survivable.

Rescue tasks are based on a number of variables, including the number of occupants, their location relative to the fire and smoke, whether or not they have been injured or incapacitated, and their ability to take self-preserving actions. For example, ambulatory adults need less assistance than those with restricted mobility, the very young and elderly are more vulnerable and require more assistance. Before initiating operations, the Incident Commander must assess the situation and select an appropriate strategy (offensive, defensive or transitional) as each strategy has its own critical task demands. Tactical assignments must then be made to accomplish the strategy.

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Offensive Strategy typically employs an aggressive nozzle advance to the seat-of-the fire, by the first arriving firefighters. The priorities of this strategy are to: immediately stabilize the incident, rescue trapped occupants and/or minimize property loss. The objective is to confine and extinguish the fire with the ultimate goal of protecting life, while simultaneously suppressing the fire and limiting property damage. The offensive strategy is the preferred fire attack method, due to its multiple benefits. Before employing this strategy, responders must consider the survivability of occupants, danger to responders, and availability of needed resources.

Defensive Strategy generally consists of an exterior attack designed to either confine the fire to the structure of origin or block the fire's expansion by taking a stand at a defensible position. No attempts are made to rescue civilian victims from the active fire area, due to either non-survivable conditions or structural risks that outweigh the chances of success. Nearly all firefighting is performed from outside the structure or from unaffected areas on or within the structure.

Transitional Strategy is utilized in the face of either changing resource levels or fire conditions. In the case of a transitional "defensive to offensive" attack, an initial exterior attack is utilized to reduce the threat from the fire, while awaiting the arrival of sufficient resources to safely mount an offensive attack or until a large fire is sufficiently controlled to permit a safe interior attack. Conversely, a transitional "offensive to defensive" strategy may be employed when fire spread renders a building unsafe for continued interior operations.

Single Unit Incident Response

The single unit incident response is the most basic emergency response profile. Unified Fire Authority's personnel are cross trained for a variety of different fire responses and are trained to understand when specialists or additional resources may be required. This response is intended to provide personnel and equipment for low acuity fires including vehicle fires, dumpster fires, illegal burning, smell of smoke in the area, low acuity HazMat response, residential and commercial alarm notifications, public or agency assistance, etc. The primary objective for this response package is general problem solving and rapid control of an event that could have a high impact on individuals or the community if left to develop un-controlled.

Initial Structure Fire Response

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The initial structure fire response force is an intermediate response to medium acuity fires that do not fit the criteria of a confirmed structure fire. The intent of establishing an initial structure fire response force is to decrease the number of apparatus responding with lights and sirens to low and medium acuity fire calls. This reduction in the number of responding vehicles reduces exposure of Firefighters and the public to emergency vehicle response and also increases availability time for apparatus in busier areas. Many low- and medium-acuity fire responses can be safely and quickly addressed with fewer than a "full alarm" fire response.

The initial structure fire response should be dispatched immediately while additional information is gathered and can be upgraded by the responding officer(s) or the dispatch center if further information indicates the fire meets criteria

Technical Rescue

Those tasks associated with freeing people from entrapment or additional high-acuity rescue situations, including technical rescue, confined space rescue, rope rescue, vehicle and heavy machinery extrication, rope rescue (high- and low-angle), structure collapse rescue, trench collapse and urban search & rescue (US&R). UFA has two Heavy Rescue companies that meet or exceed minimum training standards identified in NFPA 1006: Standards for Technical Rescuer Professional Qualifications. Additionally, UFA is the sponsoring agency for Utah Task Force 1 (UT-TF1), a Federal FEMA resource which also may be tasked as a state asset.

Incidents per Type with Risk Category	CY 2020	CY 2019	CY 2018	Total
Technical Rescue				
Low	11	1	3	15
Moderate	4	2	1	7
High	4	1	0	5
Maximum	1	0	0	1
Technical Rescue Total	20	4	4	28

Table 146 - Technical Rescue Responses with Risk Categories

Hazardous Materials

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Those tasks associated with the identification, mitigation, containment, and safe neutralization of hazardous, radioactive and/or toxic materials. All UFA firefighters are trained at a minimum to HazMat Awareness and Operations level. UFA has two HazMat companies that are trained to HazMat Technician level and meet or exceed both NFPA 471: Recommended Practice for Responding to Hazardous Materials Incidents and NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents.

Incidents per Type with Risk Category	CY 2020	CY 2019	CY 2018	Total
HazMat Response				
Low	301	278	199	778
Moderate	22	34	32	88
High/Maximum	1	1	1	3
HazMat Response Total	324	313	232	869

Table 147 - HazMat Responses with Risk Categories

Water Rescue

Water rescue includes those tasks associated with the rescue of people from waterways and standing bodies of water. UFA has three identified companies trained to surface and swift water response and rescue and are trained to Swiftwater Rescue Technician level and meet or exceed NFPA Chapters 11 and 12 of NFPA 1006, Standard for Technical Rescuer Professional Qualifications in addition to maintaining Technical Rope Rescue – Technician. Additionally, these stations also maintain Ice Rescue Technician, meeting or exceeding NFPA Chapter 20 of NFPA 1006. UFA's Heavy Rescue companies also maintain water capabilities at the Technician level.

Incidents per Type with Risk Category	CY 2020	CY 2019	CY 2018	Total
Swiftwater/Ice Rescue				
Low	1	0	0	1
Moderate	1	0	0	1
High	0	0	0	0
Maximum	0	0	0	0
Swiftwater Rescue Total	2	0	0	2

Table 148 - Swiftwater/Ice Rescue Responses with Risk Categories

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Wildland Urban Interface Fire Response

Incidents per Type with Risk Category	CY 2020	CY 2019	CY 2018	Total
Wildland Fire				
Low	230	119	80	429
Moderate	112	88	113	313
High	0	0	1	1
Maximum	0	0	0	0
Wildland Fire Suppression Total	342	207	194	743

Table 149 - Wildland Responses with Risk Categories

Wildland/Urban Interface (WUI) fire response includes those tasks associated with fire suppression activities in areas where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. UFA currently provides both fire suppression and mitigation work within those communities adjacent to and surrounded by wildland areas. Each county within the State of Utah has a Fire Warden that manages large-scale or growing incidents within their respective areas. Since the State of Utah implemented its Comprehensive Wildland Fire Policy in 2017, UFA has continued a long-standing partnership with the State in both preventing catastrophic wildfires and providing initial attack capabilities within Salt Lake County.

All UFA firefighters are trained to the Wildland Firefighter Type 2 level at a minimum. Additional wildland fire suppression capacity includes a fleet of specialized wildland fire response equipment, trained and experienced wildland fire managers, including an on-duty Wildland Duty Officer and a “fuels crew” that engages in fuels and risk reduction projects through the summer. Wildland fire events often have some of the most widespread and expensive impacts to communities and the organization.

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Evaluation of Current Deployment and Performance

Performance Methodology

Resource Deployment

UFA maintains a daily minimum staffing of 113 full-time positions, with an additional ten part-time personnel (three ambulances running peak-load hours—six personnel running either 0700-1900 or 0900-2100 dependent on data and call volume—and two part-time positions running with a twenty-four-hour full-time paramedic partner running three ambulances). These personnel run fr forty-two pieces of front-line apparatus. An additional thirteen reserve ambulances and eighteen reserve heavy apparatus are available within UFA's system and are staged either at UFA's logistics warehouse or in different stations throughout UFA to provide backup in the case of mechanical problems with frontline apparatus.

Response Metrics

The first unit to arrive on the scene of any given emergent incident, or "first-due apparatus" will be able to establish incident command, perform a scene size-up, give an initial report and make assignments to other responding companies. Most UFA suppression units are staffed with a minimum of 4 personnel so this unit will also be able to initiate interior or exterior fire attack, identification and/or initial confinement of hazard, rescue of endangered persons, or initiation of ALS or BLS emergency medical care.

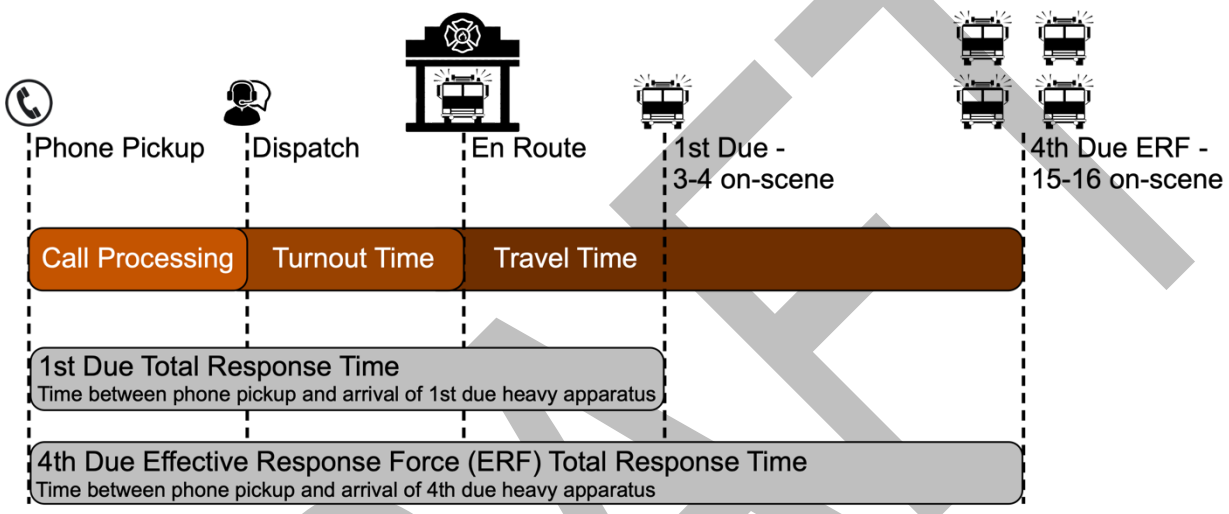
The Effective Response Force (ERF) measures the time of the accumulation of personnel and resources to meet the ERF defined in the critical task analyses documented in this SOC document.

Total Response Time Components

Total response time is the time it takes from the call to be received at the VECC Public Safety Answering Point (PSAP) until the first unit arrives on the scene of the emergency incident. Total response time is measured for all first-due and ERF responses. Total response time is composed of call-processing time, turnout time, and travel time.

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- *Call Processing Time* is the time the call being received at the PSAP to the dispatching of the first UFA unit. This is measured for all emergency incidents.
- *Turnout Time* is the elapsed time from when a unit is dispatched until that unit changes their status to 'enroute'. This time is measured for all first-due units that are dispatched to an emergency incident.
- *Travel Time* is the elapsed time from when a unit begins to respond until it arrives on scene. This time is measured for all first-due and ERF responses.



Benchmark Statements

UFA's benchmark statements for each risk classification and category are:

Low-Risk Responses (Non-EMS)

Low-Risk (Non-EMS)	Urban	Rural
Fire Suppression	10:30	15:00
HazMat	7:30	11:30
Technical Rescue	9:30	19:30
Water Rescue	10:30	20:30
Wildland Suppression	10:30	20:30

For 90% of low-risk fire suppression responses in urban areas, the total response time for the arrival of the first-due unit, staffed with a minimum of four persons, is ten minutes and thirty seconds.

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For 90% of low-risk fire suppression responses in rural areas, the total response time for the arrival of the first-due unit, staffed with three persons, is fifteen minutes and zero seconds.

For 90% of low-risk hazardous materials responses in urban areas, the total response time for the arrival of the first-due unit, staffed with a minimum of four persons, is seven minutes and thirty seconds.

For 90% of low-risk hazardous materials responses in rural areas, the total response time for the arrival of the first-due unit, staffed with three persons, is eleven minutes and thirty seconds.

For 90% of low-risk technical rescue responses in urban areas, the total response time for the arrival of the first-due unit, staffed with a minimum of four persons, is nine minutes and thirty seconds.

For 90% of low-risk technical rescue responses in rural areas, the total response time for the arrival of the first-due unit, staffed with three persons, is nineteen minutes and thirty seconds.

For 90% of low-risk water rescue responses in urban areas, the total response time for the arrival of the first-due unit, staffed with a minimum of four persons, is ten minutes and thirty seconds.

For 90% of low-risk water rescue responses in rural areas, the total response time for the arrival of the first-due unit, staffed with three persons, is twenty minutes and thirty seconds.

For 90% of low-risk wildland suppression responses in urban areas, the total response time for the arrival of the first-due unit, staffed with a minimum of four persons, is ten minutes and thirty seconds.

For 90% of low-risk wildland suppression responses in rural areas, the total response time for the arrival of the first-due unit, staffed with three persons, is twenty minutes and thirty seconds.

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Low-Risk Responses (EMS)

Low-Risk (EMS)	Urban	Rural
EMS Response	5:45	10:30

For 90% of all low-risk EMS responses in urban areas, the total response time for the arrival of the first-due unit, staffed with four persons, is five minutes and forty-five seconds.

For 90% of all low-risk EMS responses in rural areas, the total response time for the arrival of the first-due unit, staffed with three persons, is ten minutes and thirty seconds.

Moderate-Risk Responses (Non-EMS)

Moderate-Risk (Non-EMS)	Urban	Rural
Fire Suppression	10:30	15:00
HazMat	10:30	14:30
Technical Rescue	12:30	16:30
Water Rescue	13:45	21:00
Wildland Suppression	13:45	21:00

For 90% of moderate-risk fire suppression responses in urban areas, the total response time for the arrival of the ERF, staffed with eight persons, is ten minutes and thirty seconds.

For 90% of moderate-risk fire suppression responses in rural areas, the total response time for the arrival of the ERF, staffed with eight persons, is fifteen minutes and zero seconds.

For 90% of moderate-risk hazardous material responses in urban areas, the total response time for the arrival of the ERF, staffed with sixteen persons, is ten minutes and thirty seconds.

For 90% of moderate-risk hazardous material responses in rural areas, the total response time for the arrival of the ERF, staffed with sixteen persons, is fourteen minutes and thirty seconds.

For 90% of moderate-risk technical rescue responses in urban areas, the total response time for the arrival of the ERF, staffed with ten persons, is twelve minutes and thirty seconds.

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For 90% of moderate-risk technical rescue responses in rural areas, the total response time for the arrival of the ERF, staffed with ten persons, is sixteen minutes and thirty seconds.

For 90% of moderate-risk water rescue responses in urban areas, the total response time for the arrival of the ERF, staffed with twelve persons, is thirteen minutes and forty-five seconds.

For 90% of moderate-risk water rescue responses in rural areas, the total response time for the arrival of the ERF, staffed with twelve persons, is twenty-one minutes and zero seconds.

For 90% of moderate-risk wildland suppression responses in urban areas, the total response time for the arrival of the ERF, staffed with nineteen persons, is thirteen minutes and forty-five seconds.

For 90% of moderate-risk wildland suppression responses in rural areas, the total response time for the arrival of the ERF, staffed with nineteen persons, is twenty-one minutes and zero seconds.

The ERF is capable of (regardless of fire suppression, technical rescue, hazardous materials, and swiftwater/surface ice rescue response):

- Establishing command
- Sizing up the situation
- Initiate mitigation efforts within one minute of arrival
- Identify specialized resource needs
- Initiate an action plan — in coordination with SMEs on hazard-specific events
    - Fire Suppression-specific
        - Establishing one suppression handline in service
        - Comply with two in-two out
        - Establish a water supply
        - Provide search and rescue
        - Provide ventilation
        - Provide a truck company
        - Provide a four-person initial rapid intervention team (IRIT)
    - Technical Rescue-specific

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        - Initiate patient care
        - Provide technical rescue coordination and management of the operations
        - Identify any additional resources or equipment needs
    - Hazardous Materials-specific
        - Provide atmospheric monitoring
        - Initiate patient care, rescue, removal or plan of removal
        - Provide HazMat coordination and management of the operations
        - Initiate HazMat-specific identification and mitigation efforts
        - Identify any additional resources or equipment needs
        - Coordinate with SLCo Health Department on clean-up efforts and needs
    - Swiftwater/Surface Ice Rescue-specific
        - Initiate patient care
        - Coordinate water/ice rescue efforts for patient care, rescue, removal or plan of removal

Moderate-Risk Responses (EMS)

Moderate-Risk (EMS)	Urban	Rural
EMS Response	8:00	14:15

For 90% of moderate-risk EMS responses in urban areas, the total response time for the arrival of the ERF, staffed with twelve persons, is eight minutes and zero seconds.

For 90% of moderate-risk EMS responses in rural areas, the total response time for the arrival of the ERF, staffed with twelve persons, is fourteen minutes and fifteen seconds.

The ERF is capable of:

- Establishing command
- Sizing up the situation
- Initiate triage, as needed, within one minute of
- Initiate patient care within one minute of arrival
- Identify and initiate an action plan
- Initiate ALS medical care, including cardiac defibrillation, within one minute of arrival
- Identify specialized resource needs

High-Risk Responses (Non-EMS)

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High-Risk (Non-EMS)	Urban	Rural
Fire Suppression	21:00	30:00
HazMat	21:00	29:00
Technical Rescue	25:00	32:00
Water Rescue	27:30	42:00
Wildland Suppression	Unable to Determine	Unable to Determine

For 90% of high-risk fire suppression responses in urban areas, the total response time for the arrival of the ERF, staffed with twenty-five persons, is twenty-one minutes and zero seconds.

For 90% of high-risk fire suppression responses in rural areas, the total response time for the arrival of the ERF, staffed with twenty-five persons, is thirty minutes and zero seconds.

For 90% of high-risk hazardous material responses in urban areas, the total response time for the arrival of the ERF, staffed with thirty-five persons, is twenty-one minutes and zero seconds.

For 90% of high-risk hazardous material responses in rural areas, the total response time for the arrival of the ERF, staffed with thirty-five persons, is twenty-nine minutes and zero seconds.

For 90% of technical rescue suppression responses in urban areas, the total response time for the arrival of the ERF, staffed with twenty-seven persons, is twenty-five minutes and zero seconds.

For 90% of high-risk technical rescue responses in rural areas, the total response time for the arrival of the ERF, staffed with twenty-seven persons, is thirty-two minutes and zero seconds.

For 90% of high-risk water rescue responses in urban areas, the total response time for the arrival of the ERF, staffed with eighteen persons, is twenty-seven minutes and thirty seconds.

For 90% of high-risk water rescue responses in rural areas, the total response time for the arrival of the ERF, staffed with eighteen persons, is forty-two minutes and zero seconds.

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For 90% of high-risk wildland suppression responses in urban areas, the total response time for the arrival of the ERF, staffed with seventy-six persons, cannot accurately be identified due to high-risk incidents being turned over to an Incident Management Team (IMT), which are primarily regional resources.

For 90% of high-risk wildland suppression responses in rural areas, the total response time for the arrival of the ERF, staffed with seventy-six persons, cannot accurately be identified due to high-risk incidents being turned over to an Incident Management Team (IMT), which are primarily regional resources.

The ERF is capable of (regardless of fire suppression, technical rescue, hazardous materials, and water rescue response):

- Establishing command
- Sizing up the situation
- Initiate mitigation efforts within one minute of arrival
- Identify specialized resource needs
- Initiate an action plan — in coordination with SMEs on hazard-specific events
    - Fire Suppression-specific
        - Establishing one suppression handline in service
        - Comply with two in-two out
        - Establish a water supply
        - Provide search and rescue
        - Provide ventilation
        - Provide a truck company
        - Provide a four-person initial rapid intervention team (IRIT)
    - Technical Rescue-specific
        - Initiate patient care
        - Provide technical rescue coordination and management of the operations
        - Identify any additional resources or equipment needs
    - Hazardous Materials-specific
        - Provide atmospheric monitoring
        - Initiate patient care, rescue, removal or plan of removal
        - Provide HazMat coordination and management of the operations
        - Initiate HazMat-specific identification and mitigation efforts
        - Identify any additional resources or equipment needs

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        - Coordinate with SLCo Health Department on clean-up efforts and needs
    - Water Rescue-specific
        - Initiate patient care
        - Coordinate water/ice rescue efforts for patient care, rescue, removal or plan of removal

High and Maximum Risk Responses (EMS)

High/Maximum-Risk (EMS)	Urban	Rural
EMS Response	16:00	28:30

For 90% of high/maximum-risk EMS responses in urban areas, the total response time for the arrival of the ERF, staffed with thirty persons, is sixteen minutes and zero seconds.

For 90% of moderate-risk EMS responses in rural areas, the total response time for the arrival of the ERF, staffed with thirty persons, is twenty-eight minutes and thirty seconds.

The ERF is capable of:

- Establishing command
- Sizing up the situation
- Initiate triage, as needed, within one minute of arrival
- Initiate patient care within one minute of arrival
- Identify and initiate an action plan
- Initiate ALS medical care, including cardiac defibrillation, within one minute of arrival
- Identify specialized resource needs

Maximum-Risk Responses (Non-EMS)

Maximum-Risk (Non-EMS)	Urban	Rural
Fire Suppression	21:00	30:00
HazMat	21:00	29:00
Technical Rescue	25:00	32:00
Water Rescue	27:30	42:00
Wildland Suppression	Unable to Determine	Unable to Determine

For 90% of maximum-risk fire suppression responses in urban areas, the total response time for the arrival of the ERF, staffed with thirty-nine persons, is twenty-one minutes and zero seconds.

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For 90% of maximum-risk fire suppression responses in rural areas, the total response time for the arrival of the ERF, staffed with thirty-nine persons, is thirty minutes and zero seconds.

For 90% of maximum-risk hazardous material responses in urban areas, the total response time for the arrival of the ERF, staffed with thirty-five persons, is twenty-one minutes and zero seconds.

For 90% of maximum-risk hazardous material responses in rural areas, the total response time for the arrival of the ERF, staffed with thirty-five persons, is twenty-nine minutes and zero seconds.

For 90% of maximum-risk technical rescue responses in urban areas, the total response time for the arrival of the ERF, staffed with thirty-one persons, is twenty-five minutes and zero seconds.

For 90% of maximum-risk fire suppression responses in rural areas, the total response time for the arrival of the ERF, staffed with thirty-one persons, is thirty-two minutes and zero seconds.

For 90% of maximum-risk water rescue responses in urban areas, the total response time for the arrival of the ERF, staffed with twenty-six persons, is twenty-seven minutes and thirty seconds.

For 90% of maximum-risk water rescue responses in rural areas, the total response time for the arrival of the ERF, staffed with twenty-six persons, is forty-two minutes and zero seconds.

For 90% of maximum-risk wildland suppression responses in urban areas, the total response time for the arrival of the ERF, staffed with two hundred plus persons, cannot accurately be identified due to maximum-risk incidents being turned over to a Type 1 or 2 Incident Management Team (IMT), which are national resources.

For 90% of maximum-risk wildland suppression responses in rural areas, the total response time for the arrival of the ERF, staffed with two hundred plus persons, cannot

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accurately be identified due to maximum-risk incidents being turned over to a Type 1 or 2 Incident Management Team (IMT), which are national resources.

The ERF is capable of (regardless of fire suppression, technical rescue, hazardous materials, and swiftwater/surface ice rescue response):

- Establishing command
- Sizing up the situation
- Initiate mitigation efforts within one minute of arrival
- Identify specialized resource needs
- Initiate an action plan — in coordination with SMEs on hazard-specific events
    - Fire Suppression-specific
        - Establishing one suppression handline in service
        - Comply with two in-two out
        - Establish a water supply
        - Provide search and rescue
        - Provide ventilation
        - Provide a truck company
        - Provide a four-person initial rapid intervention team (IRIT)
    - Technical Rescue-specific
        - Initiate patient care
        - Provide technical rescue coordination and management of the operations
        - Identify any additional resources or equipment needs
    - Hazardous Materials-specific
        - Provide atmospheric monitoring
        - Initiate patient care, rescue, removal or plan of removal
        - Provide HazMat coordination and management of the operations
        - Initiate HazMat-specific identification and mitigation efforts
        - Identify any additional resources or equipment needs
        - Coordinate with SLCo Health Department on clean-up efforts and needs
    - Water Rescue-specific
        - Initiate patient care
        - Coordinate water/ice rescue efforts for patient care, rescue, removal or plan of removal

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Responses Matrices Combined

Low-Risk (Non-EMS)	Urban	Rural
Fire Suppression	10:30	15:00
HazMat	7:30	11:30
Technical Rescue	9:30	19:30
Water Rescue	10:30	20:30
Wildland Suppression	10:30	20:30
Moderate-Risk (Non-EMS)		
Fire Suppression	10:30	15:00
HazMat	10:30	14:30
Technical Rescue	12:30	16:30
Water Rescue	13:45	21:00
Wildland Suppression	13:45	21:00
High-Risk (Non-EMS)		
Fire Suppression	21:00	30:00
HazMat	21:00	29:00
Technical Rescue	25:00	32:00
Water Rescue	27:30	42:00
Wildland Suppression	Unable to Determine	Unable to Determine
Maximum-Risk (Non-EMS)		
Fire Suppression	21:00	30:00
HazMat	21:00	29:00
Technical Rescue	25:00	32:00
Water Rescue	27:30	42:00
Wildland Suppression	Unable to Determine	Unable to Determine

Low-Risk (EMS)	Urban	Rural
EMS Response	5:45	10:30
Moderate-Risk (EMS)		
EMS Response	8:00	14:15
High/Maximum-Risk (EMS)		
EMS Response	16:00	28:30

Baseline Statements & Metrics

UFA measures and evaluates its service delivery against benchmarks and industry best practices. Identification of key metrics and predictive analyses are critical, in coordination with geographic information systems (GIS) mapping capabilities to properly identify UFA's current deployment and performance measures. In order to appropriately measure performance, UFA looks at industry standards. The time from phone pickup to dispatch is identified as call processing time. Turnout time is the amount of time from dispatch notification to the first due heavy apparatus beginning the travel time, i.e., going en route.

The travel time is the amount of time it takes for that first-due unit to arrive on scene. For the total response time, the time is taken from the time the call is picked up to the time that the unit arrives on scene. A good gauge of when the majority of an effective response force (ERF) arrives is by capturing the time of the fourth arriving unit. UFA doesn't currently have a good mechanism to capture the fourth arriving unit or the ERF, although that is one of the recommended items to capture.

The figures below are the actual timeframes for incident responses from 2018-2020. UFA utilizes automatic and mutual aid in its responses for the effective response force complement of personnel, for which there is a current lack of data and is denoted with 'unknown' in the tables.

Fire Suppression

For ninety percent of all fire suppression responses from 2018-2020, the total response time for the arrival of the first due unit, staffed with a minimum of four personnel in urban areas was eleven minutes: forty-three seconds and sixteen minutes and thirty-six seconds in rural areas.

All Risk Levels Emergent Fire Suppression – 90th % – Baseline Performance			Target (Agency Benchmark)	Average CY 18-20	CY 2020	CY 2019	CY 2018
Alarm Handling	Pickup to Dispatch	Urban	1:30	2:53	2:45	2:33	3:21
		Rural	1:30	2:50	2:50	3:07	2:34
Turnout Time	Turnout Time 1st Due	Urban	2:00	2:38	2:23	2:38	2:54
		Rural	2:00	3:18	3:13	3:22	3:20
Travel Time	Travel Time 1st Due	Urban	7:45	8:34	8:33	7:45	9:25
		Rural	12:30	14:02	13:15	11:53	16:59
	Travel Time ERF Concentration	Urban	15:30	Unk	Unk	Unk	Unk
		Rural	25:00	Unk	Unk	Unk	Unk
Total Response Time	Total Response Time 1st Due Distribution	Urban	10:30	11:43	11:24	10:57	12:49
				n=1,542	n=2,026	n=1,478	n=1,123
		Rural	15:00	16:36	16:48	15:13	17:47
				n=112	n=132	n=107	n=98
	Total Response Time ERF Concentration	Urban	21:00	Unk	Unk	Unk	Unk
				n=1,542	n=2,026	n=1,478	n=1,123
		Rural	30:00	Unk	Unk	Unk	Unk
				n=112	n=132	n=107	n=98

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NOTE – NFPA 1221 and 1710 recommend an alarm handling time of 64 seconds (90th percentile); turnout time of 80 seconds (90th percentile); 1st arriving unit on-scene time of 240 seconds (4 minutes [90th percentile]); initial full-alarm arrival time for 480 seconds (8 minutes [90th percentile]) for low and medium hazard categories; and 610 seconds (10 minutes 10 seconds [90th percentile]) for high hazard categories. It is important to note that these are recommendations only.

Emergency Medical Services

For ninety percent of all EMS responses from 2018-2020, the total response time for the arrival of the first due unit, staffed with a minimum of two personnel in urban areas was eight minutes and fifty-four seconds: fifteen minutes and forty-nine seconds in rural areas.

All Risk Levels Emergent EMS – 90th % – Baseline Performance			Target (Agency Benchmark)	Average CY 18-20	CY 2020	CY 2019	CY 2018
Alarm Handling	Pickup to Dispatch	Urban	1:30	1:48	1:51	1:28	2:06
		Rural	1:30	2:07	2:06	1:50	2:26
Turnout Time	Turnout Time 1st Due	Urban	1:30	2:28	2:17	2:27	2:42
		Rural	1:30	3:09	3:03	3:07	3:18
Travel Time	Travel Time 1st Due	Urban	5:45	6:21	6:22	6:14	6:28
		Rural	10:30	11:36	10:37	10:34	13:39
	Travel Time ERF Concentration	Urban	11:30	Unk	Unk	Unk	Unk
		Rural	21:00	Unk	Unk	Unk	Unk
Total Response Time	Total Response Time 1st Due Distribution	Urban	8:00	8:54	8:00	9:00	9:42
				n=9,626	n=9,138	n=9,914	n=9,825
		Rural	14:15	15:49	14:23	14:50	18:15
				n=567	n=621	n=573	n=507
	Total Response Time ERF Concentration	Urban	16:00	Unk	Unk	Unk	Unk
				n=9,626	n=9,138	n=9,914	n=9,825
		Rural	28:30	Unk	Unk	Unk	Unk
				n=567	n=621	n=573	n=507

NOTE – NFPA 1221 and 1710 recommend an alarm handling time of 64 seconds (90th percentile); turnout time of 60 seconds (90th percentile) for EMS responses; 1st arriving unit on-scene time with a minimum of BLS capability of 240 seconds (4 minutes [90th percentile]); and travel time for ALS provider capability of 480 seconds (8 minutes [90th percentile]). It is important to note that these are recommendations and NFPA does not provide recommendations specific to EMS responses.

Hazardous Material Responses

For ninety percent of all HazMat responses from 2018-2020, the total response time for the arrival of the first due unit, staffed with a minimum of four personnel in urban areas was eleven minutes and forty-six seconds: sixteen minutes and three seconds in rural areas.

All Risk Levels Emergent HazMat Incidents – 90th % – Baseline Performance			Target (Agency Benchmark)	Average CY 18-20	CY 2020	CY 2019	CY 2018
Alarm Handling	Pickup to Dispatch	Urban	1:30	2:37	2:49	2:16	2:47
		Rural	1:30	1:58	2:01	1:38	2:17
Turnout Time	Turnout Time 1st Due	Urban	2:00	2:37	2:20	2:35	2:58
		Rural	2:00	3:11	2:55	2:33	4:06
Travel Time	Travel Time 1st Due	Urban	7:30	8:14	9:11	7:43	7:49
		Rural	11:30	12:41	13:28	11:15	13:22
	Travel Time ERF Concentration	Urban	15:00	Unk	Unk	Unk	Unk
		Rural	23:00	Unk	Unk	Unk	Unk
Total Response Time	Total Response Time 1st Due Distribution	Urban	10:30	11:46	12:41	11:20	11:17
				n=273	n=304	n=293	n=222
		Rural	14:30	16:03	16:49	13:37	17:45
				n=19	n=22	n=24	n=12
	Total Response Time ERF Concentration	Urban	21:00	Unk	Unk	Unk	Unk
				n=273	n=304	n=293	n=222
		Rural	29:00	Unk	Unk	Unk	Unk
				n=19	n=22	n=24	n=12

NOTE – NFPA 1221 and 1710 recommend an alarm handling time of 64 seconds (90th percentile); turnout time of 80 seconds (90th percentile); 1st arriving unit on-scene time of 240 seconds (4 minutes [90th percentile]); initial full-alarm arrival time for 480 seconds (8 minutes [90th percentile]) for low and medium hazard categories; and 610 seconds (10 minutes 10 seconds [90th percentile]) for high hazard categories. It is important to note that these are recommendations and NFPA does not provide recommendations specific to hazardous materials responses.

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Technical Rescue Responses

For ninety percent of all technical rescue responses from 2018-2020, the total response time for the arrival of the first due unit, staffed with a minimum of four in urban areas was thirteen minutes and fifty-four seconds; eleven minutes and forty-six seconds in rural areas (note: there aren't enough incidents to accurately gauge timeframes).

All Risk Levels Emergent Tech Rescue Incidents – 90th % – Baseline Performance			Target (Agency Benchmark)	Average CY 18-20	CY 2020	CY 2019	CY 2018
Alarm Handling	Pickup to Dispatch	Urban	1:30	3:44	4:12	5:11	1:49
		Rural	1:30	2:18	2:15	2:21	N/A
Turnout Time	Turnout Time 1st Due	Urban	2:00	2:30	2:06	2:57	2:28
		Rural	2:00	2:02	1:59	2:05	N/A
Travel Time	Travel Time 1st Due	Urban	9:30	10:35	8:54	5:07	17:45
		Rural	9:30	7:27	9:26	5:28	N/A
	Travel Time ERF Concentration	Urban	19:00	Unk	Unk	Unk	Unk
		Rural	19:00	Unk	Unk	Unk	Unk
Total Response Time	Total Response Time 1st Due Distribution	Urban	12:30	13:54	14:46	6:12	20:44
				n=5	n=8	n=3	n=4
		Rural	12:30	11:46	13:39	9:54	N/A
				n=1	n=2	n=1	n=0
	Total Response Time ERF Concentration	Urban	25:00	Unk	Unk	Unk	Unk
				n=5	n=8	n=3	n=4
		Rural	25:00	Unk	Unk	Unk	Unk
				n=1	n=2	n=1	n=0

NOTE – NFPA 1221 and 1710 recommend an alarm handling time of 64 seconds (90th percentile); a turnout time of 80 seconds (90th percentile); 1st arriving unit on-scene time of 240 seconds (4 minutes [90th percentile]); initial full-alarm arrival time for 480 seconds (8 minutes [90th percentile]) for low and medium hazard categories; and 610 seconds (10 minutes 10 seconds [90th percentile]) for high hazard categories. It is important to note that these are recommendations and NFPA does not provide recommendations specific to technical rescue responses.

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Water Rescue Responses

For ninety percent of all water rescue responses from 2018-2020, the total response time for the arrival of the first due unit, staffed with a minimum of four in an urban area was eight minutes and thirty seconds.

Of note, there was only one incident in 2020 identified with any NFIRS code of 360-365, water or ice-related rescue and it was located in an urban area, so there aren't enough incidents to accurately gauge timeframes.

All Risk Levels Emergent Swiftwater Incidents – 90th % – Baseline Performance			Target (Agency Benchmark)	Average CY 18-20	CY 2020	CY 2019	CY 2018
Alarm Handling	Pickup to Dispatch	Urban	1:30	N/A	2:13	N/A	N/A
		Rural	1:30	N/A	N/A	N/A	N/A
Turnout Time	Turnout Time 1st Due	Urban	2:00	N/A	0:34	N/A	N/A
		Rural	2:00	N/A	N/A	N/A	N/A
Travel Time	Travel Time 1st Due	Urban	10:30	N/A	4:07	N/A	N/A
		Rural	20:30	N/A	N/A	N/A	N/A
	Travel Time ERF Concentration	Urban	21:00	Unk	Unk	Unk	Unk
		Rural	41:00	Unk	Unk	Unk	Unk
Total Response Time	Total Response Time 1st Due Distribution	Urban	13:45	N/A	4:41	N/A	N/A
				n=	n=2	n=0	n=0
		Rural	21:00	N/A	N/A	N/A	N/A
				n=	n=0	n=0	n=0
	Total Response Time ERF Concentration	Urban	27:30	Unk	Unk	Unk	Unk
				n=	n=2	n=0	n=0
		Rural	42:00	Unk	Unk	Unk	Unk
				n=	n=0	n=0	n=0

NOTE – NFPA 1221 and 1710 recommend an alarm handling time of 64 seconds (90th percentile); turnout time of 80 seconds (90th percentile); 1st arriving unit on-scene time of 240 seconds (4 minutes [90th percentile]); initial full-alarm arrival time for 480 seconds (8 minutes [90th percentile]) for low and medium hazard categories; and 610 seconds (10 minutes 10 seconds [90th percentile]) for high hazard categories. It is important to note that these are recommendations and NFPA does not provide recommendations specific to water rescue responses.

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Wildland Suppression Responses

For ninety percent of all wildland responses from 2018-2020, the total response time for the arrival of the first due unit, staffed with a minimum of four in an urban area was fifteen minutes and thirteen seconds; twenty-three minutes and eleven seconds in rural areas.

All Risk Levels Emergent Wildland Incidents – 90th % – Baseline Performance			Target (Agency Benchmark)	Average CY 18-20	CY 2020	CY 2019	CY 2018
Alarm Handling	Pickup to Dispatch	Urban	1:30	3:17	2:52	3:00	4:01
		Rural	1:30	3:55	3:30	4:17	3:59
Turnout Time	Turnout Time 1st Due	Urban	2:00	2:35	2:22	2:27	2:57
		Rural	2:00	3:35	2:42	4:11	3:54
Travel Time	Travel Time 1st Due	Urban	10:30	11:35	11:44	10:33	12:28
		Rural	20:30	22:32	19:38	19:33	28:26
	Travel Time ERF Concentration	Urban	21:00	Unk	Unk	Unk	Unk
		Rural	41:00	Unk	Unk	Unk	Unk
Total Response Time	Total Response Time 1st Due Distribution	Urban	13:45	15:13	14:45	13:18	17:36
				n=184	n=244	n=166	n=142
		Rural	21:00	23:11	23:04	20:23	26:07
				n=66	n=96	n=46	n=56
	Total Response Time ERF Concentration	Urban	27:30	Unk	Unk	Unk	Unk
				n=184	n=244	n=166	n=142
		Rural	42:00	Unk	Unk	Unk	Unk
				n=66	n=96	n=46	n=56

NOTE – NFPA 1221 and 1710 recommend an alarm handling time of 64 seconds (90th percentile); turnout time of 80 seconds (90th percentile); 1st arriving unit on-scene time of 240 seconds (4 minutes [90th percentile]); initial full-alarm arrival time for 480 seconds (8 minutes [90th percentile]) for low and medium hazard categories; and 610 seconds (10 minutes 10 seconds [90th percentile]) for high hazard categories. It is important to note that these are recommendations and NFPA does not provide recommendations specific to wildland suppression response.

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Plan for Maintaining and Improving Response Capabilities

This CRA/SOC is an important document in showing our current personnel and the UFA Board of Directors a current snapshot of the risks inherent within the communities we serve, as well as elements that may have direct influence on the total response time(s) within each planning zone. Datasets will be pulled annually and compared against the accepted agency benchmarks to identify gaps and areas of trending in the wrong direction. An annual report will be prepared for the UFA Board of Directors and the communities UFA serves.

Additionally, UFA will continually review station placement, apparatus locations, risk assessments, etc., to seek improvement in both deployment models and travel times. Utilizing data analytics from Intterra as well as station planning and the review of effective response force deployment data from Darkhorse will allow a quicker identification of issues and problems before they become truly problematic.

A larger review of risk assessments will also occur and be addressed with a greater group of stakeholders every three years during the strategic planning process. This will also create an open forum where any identified or perceived challenges and threats can be identified, discussed, and addressed, allowing for recognition of pressing issues within the various communities served.

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Correlation of CRA/SOC Document to CFAI Accreditation Model

CC	Cat	CFAI 10th Edition Quality Improvement for the Fire and Emergency Services	CRA/SOC Page(s)
Category 2 – Assessment and Planning			
	2A.1	Service area boundaries for the agency are identified, documented and legally adopted by the authority having jurisdiction.	40-62
	2A.2	Boundaries for other service responsibility areas, such as automatic aid, mutual aid and contract areas, are identified, documented and appropriately approved by the authority having jurisdiction.	40-62
CC	2A.3	The agency has a documented and adopted methodology for organizing the response area(s) into geographical planning zones.	62
CC	2A.4	The agency assesses the community by planning zone and considers the population density within planning zones and population areas, as applicable, for the purpose of developing total response time standards.	62-80
	2A.5	Data that include property, life, injury, environmental and other associated losses, as well as the human and physical assets preserved and/or saved, are recorded for a minimum of three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	55-58
	2A.6	The agency utilizes its adopted planning zone methodology to identify response area characteristics such as population, transportation systems, area land use, topography, geography, geology, physiography, climate, hazards, risks, and service provision capability demands.	9-33
	2A.7	Significant socioeconomic and demographic characteristics for the response area are identified, such as key employment types and centers, assessed values, blighted areas, and population earning characteristics.	72
	2A.8	The agency identifies and documents all safety and remediation programs, such as fire prevention, public education, injury prevention, public health, and other similar programs, currently active within the response area.	173-176, 182
	2A.9	The agency defines and identifies infrastructure that is considered critical within each planning zone.	
CC	2B.1	The agency has a documented and adopted methodology for identifying, assessing, categorizing and classifying all risks (fire and non-fire) throughout the community or area of responsibility.	177-204

	2B.2	The historical emergency and nonemergency service demands frequency for a minimum of three immediately previous years and the future probability of emergency and nonemergency service demands, by service type, have been identified and documented by planning zone.	62-172
	2B.3	Event outputs and outcomes are assessed for three (initial accrediting agencies) to five (currently accredited agencies) immediately previous years.	62-172
CC	2B.4	The agency's risk identification, analysis, categorization, and classification methodology has been utilized to determine and document the different categories and classes of risks within each planning zone.	62-172
	2B.5	Fire protection and detection systems are incorporated into the risk analysis.	
	2B.6	The agency assesses critical infrastructure within the planning zones for capabilities and capacities to meet the demands posed by the risks.	62-172, 218-228
	2B.7	The agency engages other disciplines or groups within its community to compare and contrast risk assessments in order to identify gaps or future threats and risks.	59-61, See UFA Strategic Plan, 2021-2024
CC	2C.1	Given the levels of risks, area of responsibility, demographics, and socioeconomic factors, the agency has determined, documented and adopted a methodology for the consistent provision of service levels in all service program areas through response coverage strategies.	218-228
CC	2C.2	The agency has a documented and adopted methodology for monitoring its quality of emergency response performance for each service type within each planning zone and the total response area.	62-172
	2C.3	Fire protection systems and detection systems are identified and considered in the development of appropriate response strategies.	
CC	2C.4	A critical task analysis of each risk category and risk class has been conducted to determine the first due and effective response force capabilities and a process is in place to validate and document the results.	218-252
CC	2C.5	The agency has identified the total response time components for delivery of services in each service program area and found those services consistent and reliable within the entire response area.	205-211
	2C.6	The agency identifies outcomes for its programs and ties them to the community risk assessment during updates and adjustments of its programs, as needed.	

	2C.7	The agency has identified the total response time components for delivery of services in each service program area and assessed those services in each planning zone.	62-172 196-211
CC	2C.8	The agency has identified efforts to maintain and improve its performance in the delivery of its emergency services for the past three (initial accreditation agencies) to five (currently accredited agencies) immediately previous years.	212
	2C.9	The agency's resiliency has been assessed through its deployment policies, procedures and practices.	192-252
CC	2D.1	The agency has a documented and adopted methodology for assessing performance adequacy, consistency, reliability, resiliency and opportunities for improvement for the total response area.	212
	2D.2	The agency continuously monitors, assesses and internally reports, at least quarterly, on the ability of the existing delivery system to meet expected outcomes and identifies and prioritizes remedial actions.	Annually, 212
CC	2D.3	The performance monitoring methodology identifies, at least annually, future external influences, altering conditions, growth and development trends, and new or evolving risks, for purposes of analyzing the balance of service capabilities with new conditions or demands.	212
	2D.4	The performance monitoring methodology supports the assessment of the efficiency and effectiveness of each service program at least annually in relation to industry research.	205-212
	2D.5	Impacts of incident mitigation program efforts, such as community risk reduction, public education, and community service programs, are considered and assessed in the monitoring process.	
CC	2D.6	Performance gaps for the total response area, such as inadequacies, inconsistencies, and negative trends, are determined at least annually.	212
CC	2D.7	The agency has systematically developed a continuous improvement plan that details actions to be taken within an identified timeframe to address existing gaps and variations.	192-212
	2D.8	The agency seeks approval of its standards of cover by the authority having jurisdiction (AHJ).	196-212
CC	2D.9	On at least an annual basis, the agency formally notifies the AHJ of any gaps in current capabilities, capacity and the level of service provided within its delivery system to mitigate the identified risks within its service area, as identified in its community risk assessment/standards of	212

		cover.	
	2D.10	The agency interacts with external stakeholders and the AHJJ at least once every three years to determine the stakeholders' and AHJ's expectations for types and levels of services provided by the agency.	212

CC=Core Competency and is required for accreditation
NOTE – There are 11 categories that are identified in the Quality Improvement for the Fire and Emergency Services manual (10th Ed.). Since Category 2 is the primary element with the CRA/SOC, it is the only category that is currently utilized in the matrix.

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Recommendations

1. There is a lack of identification for multiple unit responses. Recommend adding in an identifier to capture arrival times for fourth unit responses, at a minimum, or the entire effective response force, to appropriately capture a benchmark arrival of the effective response force.

2. UFA is lacking in proper NFIRS reporting in final NFIRS code. Recommend additional training and identification for final reporting code.

3. UFA is lacking in proper NFIRS cost considerations in property and content loss as well as civilian injury information. Recommend adding in training and understanding of the importance of attempting to gather information on losses.

4. UFA is lacking the identification and capture of successes, including lives, property and environment protected. Recommend creating a system for capturing these items.

5. There is an issue separating call response times from low, medium, moderate and maximum risk, making 90th percentile call and response times inseparable from the varying risk levels. Recommend typing or creating a system within either dispatch or during NFIRS reporting to separate the varying risk levels.

6. There is a lack of understanding of target hazards, pre-plans, inspections and coordination between operations and prevention to have a good idea on those risks. Recommend that the Prevention Division lead a coordination in the identification, tracking and updating of target hazards, pre-plans and inspections.

7. Capturing the Effective Response Force from outside jurisdictions isn't regularly captured in NFIRS. 'Automatic/Mutual Aid Received' tab is filled out, but it is generally unknown which units responded to an incident, which greatly undermines the ability to determine the ERF and personnel that responded via NFIRS. Recommend taking a look at that to marry up various datasets.

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